BLAU -03901

# Operating Instructions

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# Important information on traffic safety

As the driver of a motor vehicle, it is your responsibility to pay attention to the traffic situation at all times. Never use your car radio in a way that could distract you.
Please keep in mind that you travel a distance of 14 m per second at a speed of only 50 km/h.
Should the traffic situation become particularly demanding, we advise you not to use the radio.
Always make sure that you are still able to hear any warning signals coming from outside of the vehicle, such as police or fire engine sirens, so that you can react accordingly.

## What you really have to read

Before you operate this unit, please read the notes on theft protection and language on the next page carefully.

⚠ **The automatic antenna could be damaged in a car wash.**
Before you drive through a car wash, please read the warning on page 29!

### Installation/Hook-up

We recommend that you have this unit installed by a qualified auto mechanic.

# Delivery contents

The Berlin RCM 303 A consists of high-quality components and is an example of the most modern technology available in motor vehicles, not to mention a special emphasis on traffic safety.

The system consists of:

- LCD colour monitor
- 2 tuners with RDS and 4-fold ADA
- Operating panel including cassette tape deck
- CD changer.

If desired, the following components can be added to this system:

- Telephone control unit
- Multi-standard TV
- Video interface for European TV reception as well as video components such as
- Camcorder
- Video recorder.
- Navigation system with active route guidance.

IOn request, our Berlin system specialists can provide you with any additional information necessary.

# What to do, when . . . ?

At the end of these operating instructions (see table of contents), there is a section describing several special situations which may occur and how to deal with them.

## Theft protection

This unit has been equipped with a function block which is activated as necessary. After the power supply has been interrupted for any reason, your Berlin system can only then be operated again after you have entered the secret password previously chosen. When the system has been blocked, the car license plate number you entered previously will also be visible in the display.
For thieves, it's too hot to handle. For the police, it makes finding the rightful vehicle operator and the owner of the Berlin system simplicity itself.
You will find all the information necessary for entering the password and the license plate number in the section "Programming with DSC – PASSWORD".

## Language

On delivery, the monitor displays all of the functions and messages in English (International).
You can choose any one of six different languages available.
If you would like to use a different language than is currently displayed on the monitor, then

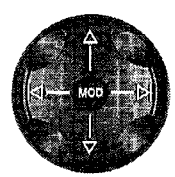
- press **MOD** for approx. 2 sec. until the information on the monitor changes.

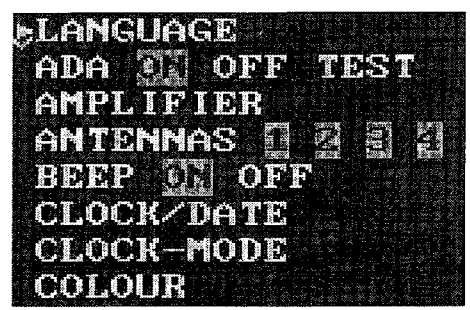
Select LANGUAGE,

- press I◄ on the MOD rocker switch (I◄ stands for top of the list). The cursor moves to LANGUAGE automatically.
- Confirm your selection by pressing ► .

Cursor rocker switch

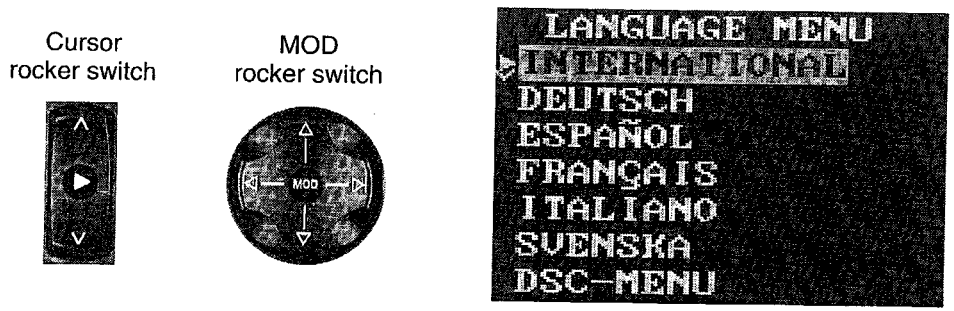
MOD rocker switch



ILANGUAGE MENU will appear at the top of the screen.
The languages you may select from will also be displayed.

INTERNATIONAL
DEUTSCH
ESPAÑOL
FRANÇAIS
ITALIANO
SVENSKA



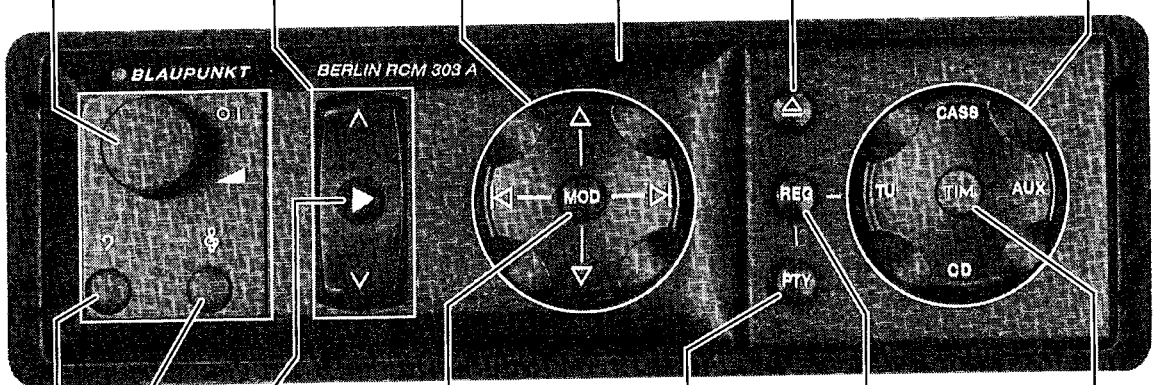

- Press the cursor rocker switch (∧ or ∨) to move the cursor to the language you wish to select (e. g. DEUTSCH) and
- press ► to confirm your selection.

Exit this language menu in the following way:

- Move the cursor to **DSC-MENU** and
- press ► to confirm.
- Press MOD quickly and the system will switch back from the DSC-MENU to the last menu selected (radio, cassette, CD or AUX).

he operating instructions are available in the following languages:

(D)
(GB)
(F)
(I)
(NL)




**On/off**
Volume control

**Cursor rocker switch**
Cursor control

**MOD rocker switch**

**Cassette cover**

**Cassette eject**
Open/ close cover

**Source switch**

**Bass**

**Treble**

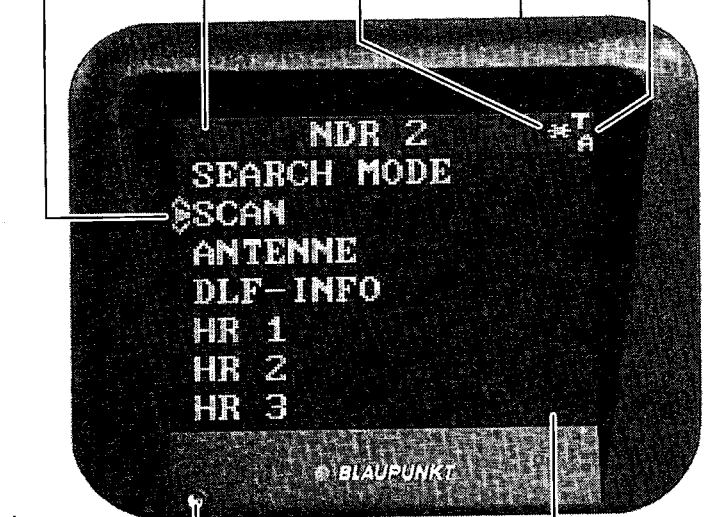
**Enter button**
Select confirm switch

**MOD button**
Balance/Fader
Equalizer
Loudness
DSC setting
(Press for longer than 2 sec.)

**PTY button**
Select programme type

**REG button**
Regional programme

**TIM button**
TA (Traffic announcement priority):
Press for longer than 2 sec.
Press quickly to hear stored traffic announcements




**Traffic announcement priority** is switched on

**TIM TIMER** is switched on

**Background brightness**

**Cursor**

**Top line**

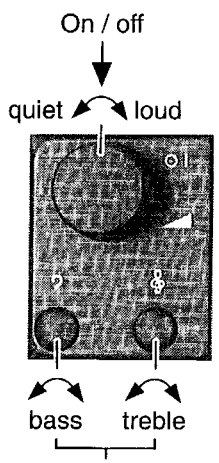
**Brightness control**
Automatic adjustment to prevailing light conditions

**Colour monitor**

# Quick instructions

**Switching on/off**
Press the volume control quickly (see fig. below).

**Volume**
The initial volume when the system is switched on has been pre-set at the factory. Adjust it by turning the knob.




Button must be in out position to adjust.
Press the button to set the out/in position.

**Bass/treble**
As soon as the setting 𝄢 or 𝄞 is altered, "T" will appear on the screen for bass, "H" for treble.
This display will disappear eight seconds after the setting has been adjusted. Pressing any button or rocker switch will delete the display immediately.

Additional function:
**Switching the monitor screen**
The monitor screen can be switched:

| | |
|---|---|
| coloured | (day mode) |
| red | (night mode, 1st option) |
| off | (night mode, 2nd option) |

The day mode has been pre-set at the factory.
Switching the screen:

- Press the volume control for longer than 2 sec. until the information on the monitor changes.

All of the system functions still operate fully when the monitor has been switched off.

**Cursor rocker switch**
- controls the cursor (in steps)
- selects functions

Move cursor upwards in steps

**Enter key**
(select,
confirm,
switch)

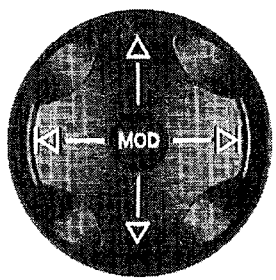
Move cursor downwards in steps

**Enter key**
- to select
- confirm
- switch
- store stations

# Overview of the MOD rocker switch functions

Page (for lists and tables)
Automatic search up (radio search)
Super CPS track up (cassette)
Fader forward (balance/fader)
CD track up (CD)

Page down
Automatic search down
Super CPS track down (cassette)
Fader back
CD track down

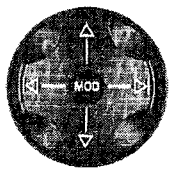



List end
Manual search up
Fast forward
Right balance
Disk up

List start
Manual search down
Fast rewind
Left balance
Disk down

**MOD rocker switch**

- for different functions in the following operating modes:




Sound distribution:

Balance I◁ / ▷I, fader △ / ▽, press MOD quickly first.

Radio:

**Station table** (reception and storage table)
Press △ to page the cursor forward, ▽ backward, I◁ to the beginning, ▷I to the end. Press I◁ / ▷I to switch between the reception table and the storage table.
**Station search** △ / ▽ automatic, I◁ / ▷I manual

Cassette:

Fast rewind/forward I◁ / ▷I, Super CPS △ / ▽

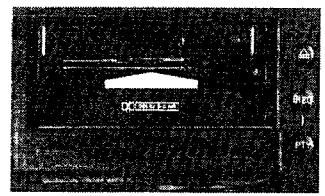
CD:

Select CD △ / ▽, select song I◁ / ▷I

**MOD button**

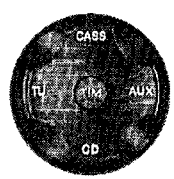
- Press the button quickly to set balance, fader, equalizer and loudness.
- Press the button for longer than 1 sec. to enter the DSC-MENU.
- Switch back to previous monitor screen: press the button quickly.

**Cassette cover**



**▲ Cassette eject**
Open/close cassette cover,
Cassette eject
Insert the cassette with its opening facing to the right, with side A or 1 facing up, into the deck and press it in gently. Do not use force. The cassette cover will close automatically.

**Source switch**
for radio, CD, cassette and optionally hooked up to AUX, TV tuner, camcorder, video recorder, telephone, navigation system and perhaps another audio source.




**TIM button** (Traffic Memo)

- for listening to recorded traffic messages. The announcement recorded last will be played back when the button is pressed. Other recorded announcements can be heard by pressing I◁ / ▷I or △ / ▽. Before attempting to operate this feature, please read "Storing traffic announcements with TIM".

**REG - regional programme** (for FM only)
When REG is switched on ("R" appears in the top line on the left), only the programme selected will be played even if another regional programme broadcast by the same station has better reception.

**PTY - Programme type**
An RDS function (radio data system) for selecting the programme type (e. g. news, sports, pop music).

**TIM Timer**
* is illuminated on the right in the top line when the timer has been activated.

Traffic announcements will be recorded as of a pre-set time even if the unit is switched off.

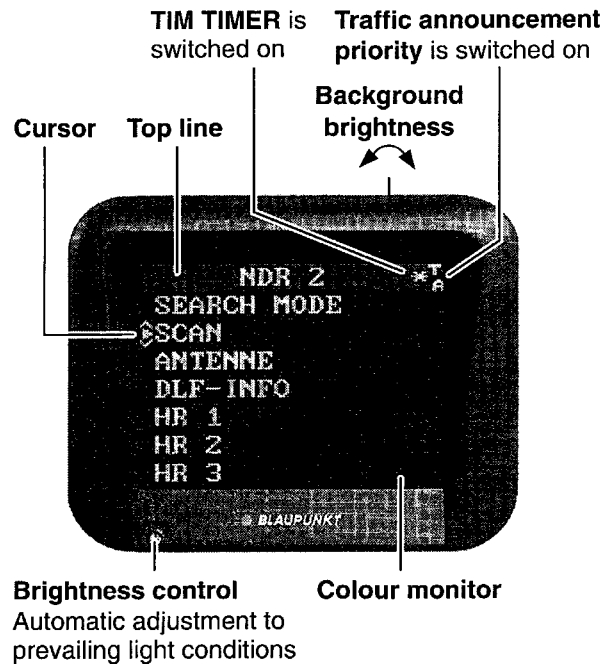
**Warning!**
**The antenna will then telescope out.**
**Please read the warning on page 27.**

**TA - Traffic announcement**
"TA" is illuminated on the right in the top line.
Traffic announcements have priority.

**Background brightness**
can be altered by turning the knob.

**Cursor**
is controlled by the cursor rocker switch.
The arrows on the cursor indicate in which direction the cursor can be moved.

Cursor
rocker switch




**Brightness control**
adjusts automatically

**Colour monitor**
The colour LCD monitor allows
- menu control

# Using the radio

The berlin RCM 303 A is equipped to receive FM, AM, LW and SW radio bands.
In the SW range, it is possible to receive the following frequencies: 13 m-, 16 m-, 19 m-, 21 m-, 25 m-, 31 m-, 41 m-, 49 m-, 60 m-, 75 m- and 90 m-band (world receiver).
In the FM range, the ADA system coupled with four tuners ensures excellent reception quality.
RDS functions such as frequency adjust, including regional frequency adjust, can be taken for granted. Using PTY (Program Type identification), you can select which type of program you would like to listen to, for example, news, sports, light classical music, although not all radio stations are currently able to provide this service.
In the FM range, the reception table listing all of the stations which can be received appears in alphanumeric order.
Stations which do not transmit RDS information appear at the bottom of the table listed according to their frequencies.
In all of the frequency ranges, you can create a preference menu (storage table). Stations which you have stored yourself will be displayed there. You can determine how the table is sorted by using DSC (SORT AUTO MANUAL). In this way, you can always have the stations you prefer listening to most at the top of the list for each frequency range.

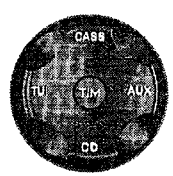
## Switching on/off

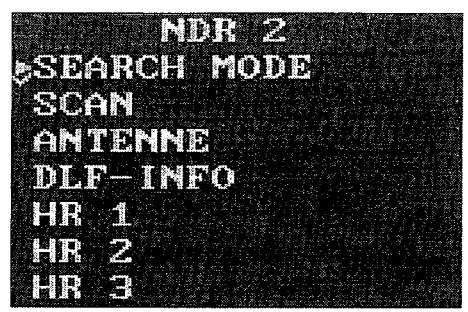
You can use the source switch to switch to radio operation:

- Press TU (tuner) for radio operation.

The last setting made for radio operation will be displayed on the monitor.

Source switch



## Selecting the frequency range

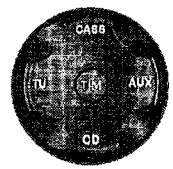
The main radio menu must be displayed on the screen. To do this,

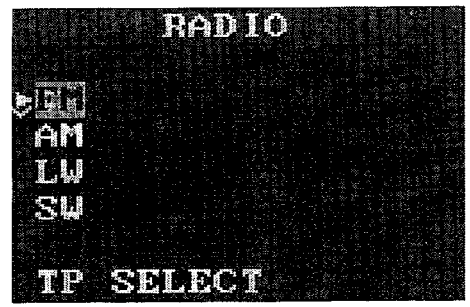
- press TU once or repeatedly,
- use the cursor to select the frequency range desired and
- press ► to confirm your selection.

If there are no stations stored, then the search menu will appear on the screen. The station table last selected will appear and the station last selected will then be played.

Cursor rocker switch

Source switch




## Switching between the reception table and the storage table (preference menu)

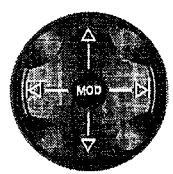
During FM operation, it is possible to display either the reception table listing all of the stations in the current reception area or the preference menu (storage table) listing all of the stations stored.
Only the preference menu (storage table) will be displayed for the other frequency ranges.
This is only possible when stations have already been stored. If this is not the case, then the search menu will appear during AM reception and the reception table when you have tuned into FM.
Switching to the other table:
If the cursor is located at the beginning ⮟ or the end ⮝ of the table,

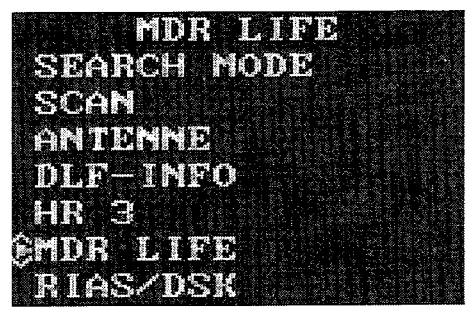
- then press either △ or ▽ on the MOD rocker switch.

Move the cursor to the beginning or end of the table by pressing I◄ or ►I respectively.

Cursor rocker switch

MOD rocker switch



Note:
The tables can spread over several screen pages.
Press △ / ▽ on the MOD rocker switch to page through.
The factory setting for the reception table is a blue background, for the storage table a red background.

## Selecting a station

The station name or the frequency of the station selected in your reception area will appear in the top line on the screen for RDS stations.
There are several different ways to select a station:

### . . . using the reception or storage table

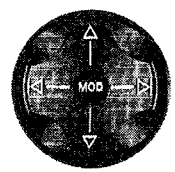
- For FM operation, select the station table desired.
- Move the cursor to the station name or the frequency and press ► to confirm your selection (press ► quickly).

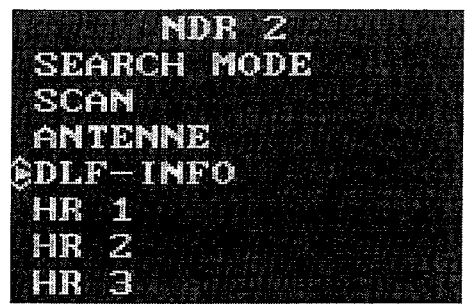
The unit will tune into the station selected, the abbreviated station name or the frequency will appear in the top line of the monitor.

Note:
Should a station appear in brackets in the preference menu (storage table), this means that the reception will be very poor or the station has not been clearly identified as a stored station. Stations which broadcast on the same frequency and do not transmit RDS cannot be clearly distinguished from one another.

Cursor rocker switch

MOD rocker switch



### . . . using the station search mode

For FM reception, select either Lo (local) or Dx (distant) in the DSC-MENU.
For AM reception (AM, LW, SW), select either wide (day) or narrow (night) in the DSC-MENU. Set to wide for the best frequency response.

- Move the cursor to SEARCH MODE and press ▶ to confirm your selection.

SEARCH MODE will appear on the display.
Press the MOD rocker switch to activate the search mode:

- △ Press either (up)/▽ (down), the search for the next station will begin automatically.

If you hold △ / ▽ pressed down, then the search mode will move quickly forwards or backwards, respectively.

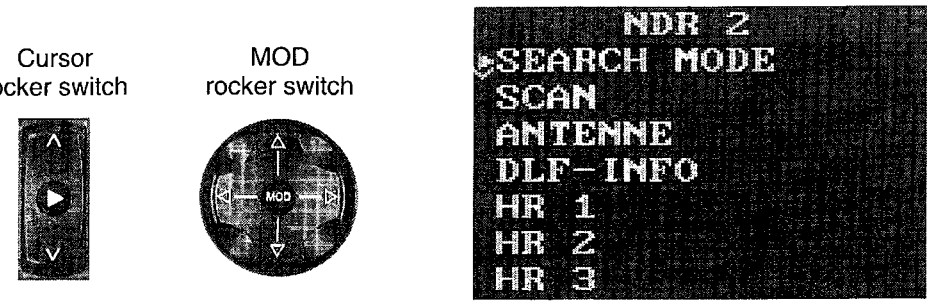
### . . . with the manual setting

- Move the cursor to SEARCH MODE and press ▶ to confirm your selection.

SEARCH MODE will appear on the display.
Use the MOD rocker switch to activate the search mode manually:

- Press either I◁ / ▷I. The frequency will change step by step either upwards or downwards, respectively. "M" will appear in the top line of the monitor.

If you hold I◁ / ▷I pressed down, then the frequency will change quickly either upwards or downwards, respectively. If you release the switch, then the search function will stop at the currently selected frequency.



### . . . using SCAN

You can use the SCAN feature to tune into all of the stations listed in the table on the display one after another for a short time. The SCAN feature can be used either for the table currently displayed or for the search mode.

To start SCAN:

- Move the cursor to SCAN and press ▶ to confirm your selection.

SCAN will flash, the cursor indicates the station currently being played. The name of this station will also be displayed at the top of the screen.

In order to select the station being played and switch off the SCAN function:

- press ▶ quickly.

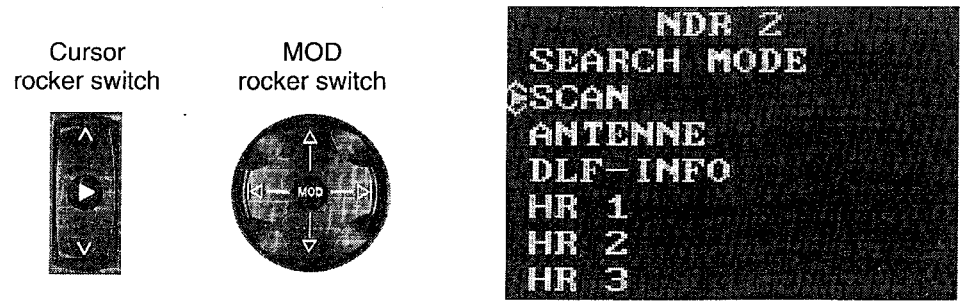
If you do not select a station after the SCAN feature has run through, then the radio will tune into the last station you were listening to once again.

## Storing a station

You can store either stations listed in a table or the search menu. If you store a station from a table, the currently selected station will not be altered. If you store a station from the search menu, you must first select this station using the search mode. The station appearing in the top line of the display is the one being stored.

- Move the cursor to mark the station you wish to store.
- Press ▶ for approx. 1 sec. until you hear a BEEP (if activated).

This station is then stored (e. g. DLF-INFO) and can now be retrieved from the storage table.



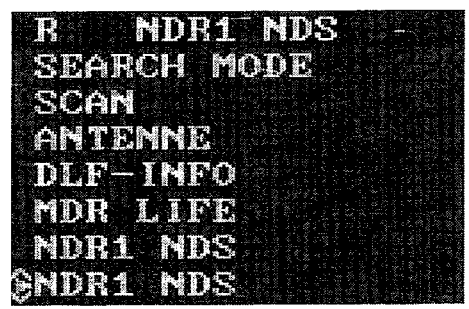
## Sorting the storage table

At the factory the sort function has been set to alphanumeric sorting. You can also use the DSC-MENU to sort the table according to your personal preference. Use the function SORT MANUAL to set this. If SORT AUTO has been selected, then the message Auto Sort will appear if you attempt to start the sorting procedure. You will find all the information necessary in the section "Programming with DSC — SORT AUTO MANUAL". Any manual sort you may have set will be deleted if you reset AUTO SORT.

## Deleting a stored station

- Select the preference menu.
- Move the cursor to the station you would like to delete (e. g. NDR 1 NDS because it appears twice).
- Press ▶ for longer than 3 sec. until you hear a BEEP (if activated) and the station name will disappear from the screen.

Cursor
rocker switch




## RDS information

**RDS** – **R**adio **D**ata **S**ystem
In the FM frequency range, using the RDS feature is more convenient than just listening to the radio. Most radio stations transmit RDS information in addition to their regular broadcasts.

## Station identification

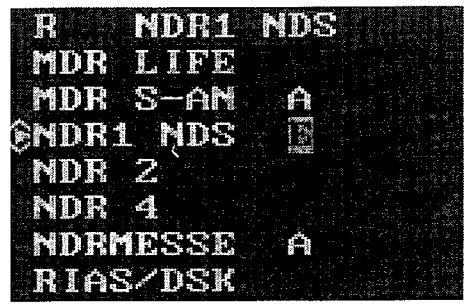
If a station programme has been identified, then the station name (NDR 2) will appear in the station table instead of the frequency (92.1 MHz). Both the frequency and the name will appear in the search mode menu.

## Alternative frequency

If an RDS station has been identified (the station name abbreviation is listed in the table), then the radio will inaudibly switch to the best possible reception frequency.
This means that you can listen to the station you have tuned into in the best possible quality while travelling from Kassel to Flensburg without having to adjust your set.
When you leave the selected station's broadcasting range – the reception quality will become noticeably poorer in spite of the ADA reception concept – then we recommend that you select a different station.
The previous station will appear in brackets in the station table.
This station will be deleted from the reception table approx. 3 minutes after you have switched to a different frequency.

## REG - Regional table

Certain FM programmes broadcast by radio stations have different contents depending on the region at different times or all the time. You can select these regional programmes from the regional table. If the regional function has been activated, then the reception will be optimized only for the selected regional programme. If no alternative station available for reception for this programme, then it will be played even if the reception quality is poor.




### Switching the regional programme on/off

- Press REG. An **R** for REG will appear in the top line of the display on the left. At the same time, the code letters for the stations available in this chain will appear after the station name.

### Selecting the regional station

- Move the cursor to the abbreviated station name and press ► to confirm your selection.

Note:
If different regional programmes with the same name are available in your reception area, then these will be indicated by a letter and can be selected as desired by pressing ► .

## PTY – Programme Type

This is an RDS service which is currently provided by an ever increasing number of radio stations and makes it possible to select an FM station according to the type of programme.

### Selecting the programme type

- Press PTY (for FM reception only).

The programme types from which you can select will appear on the monitor.

- Move the cursor to the type of programme you would like to hear and press ► to confirm your selection.

The programme type you have selected will appear below the top line on the display.

The radio stations which are currently broadcasting this type of programme will be listed on the display.

- Move the cursor to the station you wish to select and press ► to confirm your selection.

You can also select a station using PTY-SEARCH MODE or SCAN. If there is no station available which is currently broadcasting the programme type you have selected, then the station table for this programme type will contain no entries except for the menu selections PTY SEARCH MODE and SCAN. The type of programme selected will flash.

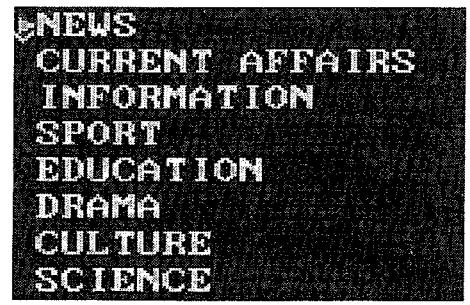
Select a different programme type:

- Press PTY.

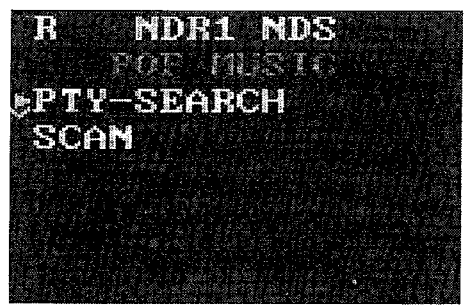
Switch the PTY function off:

- Press PTY once or repeatedly.

Cursor rocker switch




Cursor rocker switch



You can choose from among the following programme types using PTY:

NEWS
CURRENT AFFAIRS
INFORMATION
SPORTS
EDUCATION
DRAMA
CULTURE
SCIENCE
VARIED
POP MUSIC
ROCK MUSIC
M. O. R. MUSIC
LIGHT CLASSICAL
SERIOUS CLASSICAL
OTHER MUSIC

# Traffic information

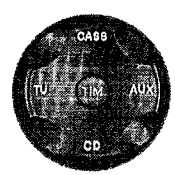
Many FM stations broadcast currently available information on the traffic situation at regular intervals. The Berlin RCM 303 A offers various possibilities for selecting a station broadcasting traffic information:
You can determine whether the station broadcasting traffic information is selected automatically or whether you pre-select the station.
If a different station or a different sound source (CD, cassette or AUX) is switched on, then they can be interrupted for the time during which the traffic information is being broadcast.
When the unit is switched on, then the traffic announcements will be recorded automatically.
You can pre-select a time during which the traffic information is recorded and constantly updated in the language memory.
The voice memory can record up to seven different messages with a total length of 4 minutes.
You can listen to these recorded messages as desired.

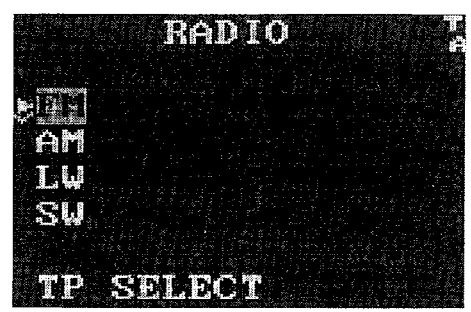
## Switching the traffic announcement priority on/ off

- Press TIM for longer than 1 sec. **TA** (traffic **a**nnouncement) will appear on the top right-hand side of the monitor when the traffic announcement priority has been switched on.

Traffic announcements will be played according to the mode you have selected (automatic or select).
You will find the information necessary for switching this mode in the following.

Source switch



The current programme will be interrupted for the duration of the traffic announcements. The volume at which the traffic announcement is heard can be adjusted with the help of the DSC setting TIM-/TA-LEVEL.

**Selecting a station transmitting traffic information:**

a) Selecting a traffic information station automatically

The traffic announcements transmitted by the station selected will be played. If this station does not transmit traffic information, then a suitable station will be selected automatically.

Switching on AUTOmatic:

- Press TU. SET TP will appear at the bottom of the screen. If not, then press TU once again.
- Move the cursor to SET TP and press ▶ to confirm your selection.
- Move the cursor to AUTO and press ▶ to confirm your selection.

AUTO will appear highlighted.

- Move the cursor to EXIT and press ▶ to confirm your selection.

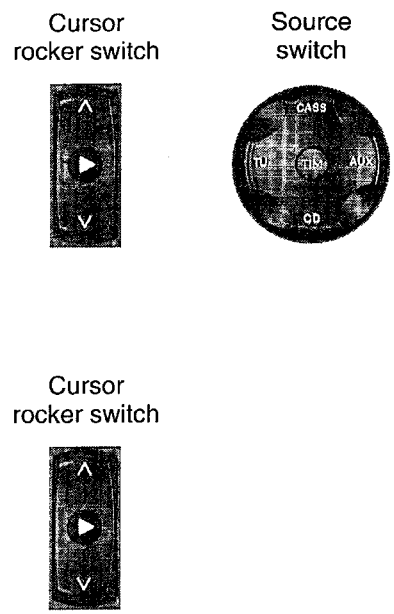
The radio mode will appear and the cursor will indicate FM.

- Press ▶ to confirm your selection

or select a different frequency range.

b) Selecting a traffic information station with SELECT

You can determine from which traffic information station you wish to listen to and record the traffic announcements. If TA is activated and you are listening to another radio station or a different sound source, then the traffic announcements from the station you have



selected will be played at the volume you have chosen. The volume of the announcement can be adjusted with the help of the DSC setting TIM-/TA-LEVEL.

If you are listening to the radio, then the unit will switch over to the traffic information station for the duration of the traffic announcement. Other sound sources (such as cassette or CD) will be stopped for this interval.

Selecting a traffic information station:

- Press TU. SET TP will appear at the bottom of the display. If not, then press TU once again.
- Move the cursor to SET TP and press ► to confirm your selection.
- Move the cursor to SELECT and press ► to confirm your selection.

All of the traffic information stations in your current reception area will appear on the monitor.

- Move the cursor to the traffic information station you wish to select and press ► quickly to confirm your selection.

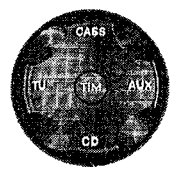
The traffic information station selected will appear in the top line of the display. After 2 sec. the display will switch to the main radio menu.

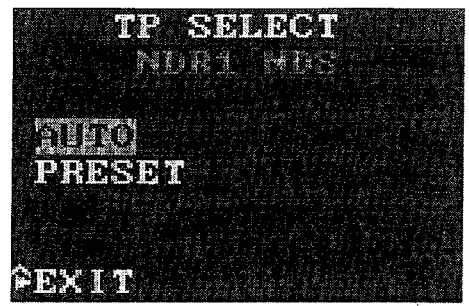
The cursor will indicate FM. You can determine which frequency range or which sound source you would like to listen to as the standard source.

- Select the frequency range and the station or a different sound source.

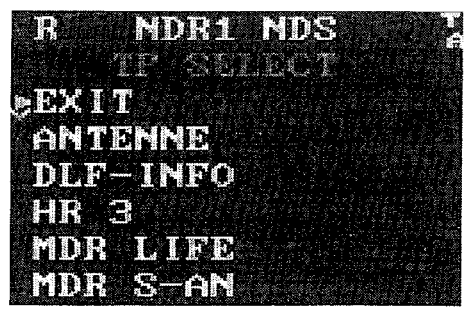
Cursor rocker switch

Source switch




Cursor rocker switch

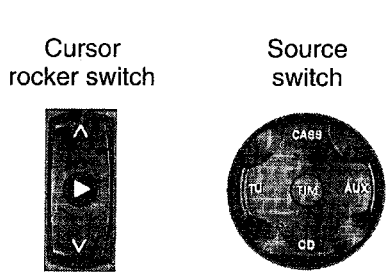


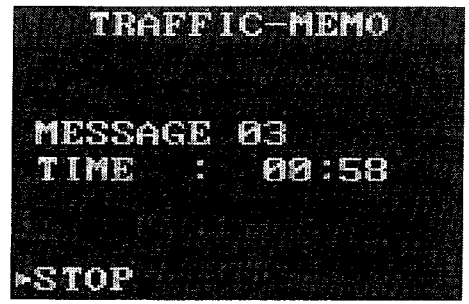
The traffic announcements transmitted by the station selected will be played automatically when TA appears at the top of the display on the right-hand side (TA priority has been switched on).
If you leave the reception area of the currently selected traffic information station, then the Berlin will automatically select another traffic information station.
For the next 8 sec. NEW TP PROGRAM, e. g. NDR 2 will appear on the display.
You will hear a beep as confirmation, if this function has been activated.
As soon as you re-enter the reception area of the selected station, then the unit will automatically switch back to this station and you will once again hear a beep to confirm this.

## Storing traffic announcements with TIM (Traffic Memo)

When the unit is switched on, traffic announcements will be recorded automatically according to the selections made.
You can use the TIM function to listen to these announcements.
TIM continues to record as many as 7 traffic announcements for up to two hours after the unit has been switched off. You can select from TIM01 to TIM07 (e. g. TIM 07 is the most recent announcement).
TA (traffic announcement priority) does not have to be switched on.
The maximum recording time is 4 minutes. As soon as the recording capacity has been filled, then the first announcement will be overwritten. If a traffic announcement lasts for longer than 4 minutes, then the following message will appear on the monitor:
"MESSAGE NOT COMPLETE DUE TO TIME OVERFLOW".

## Listening to stored traffic announcements




You can listen to stored traffic announcements in almost any operating mode:

- Press TIM quickly.

The programme you are currently listening to will be either switched to mute or interrupted.
The most recently recorded traffic announcement will be played in TA (traffic announcement volume). You can adjust the volume as desired.
Message 01, for example, will appear on the display. Below this is the recording time.
If you would like to repeat the message:

- press I◄ once.

If you would like to listen to a different message:

- press I◄ twice in order to listen to an earlier message
- press ►I once in order to listen to a subsequent message

If you would like to stop the traffic announcement:

- press either ► or TIM.

After stopping the announcement or when the announcement is over, then the unit will switch back to the programme last heard. The monitor will remain active for the next 8 sec. so that you can retrieve additional announcements if desired.
If you try to activate TIM while it is recording an announcement broadcast by a station you are not listening to, then the following message will appear: "PLEASE WAIT, TIM-RECORDING".

**Note:**
Balance, fader and tone can be adjusted separately for the TIM announcements so that the driver, for example, can listen to the announcements from the left loudspeaker and the other passengers are not disturbed.
This setting applies to the TIM announcements only.

## Recording traffic announcements starting at a predetermined time (TIM timer)

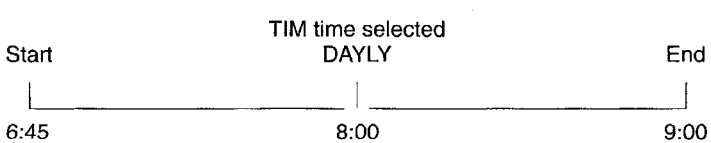
So that you always have access to the most current information, it is possible to record traffic announcements starting at a pre-set time prior to departure while the unit is still switched off. In order to do this, the time (CLOCK) must be set in the DSC-MENU TIME/DATE.
When the TIM function has been switched on (* will appear in the top right-hand corner of the monitor), then traffic announcements will be recorded for up to 2 hours after the unit has been switched off.
If it is not possible to receive the selected station (with one tuner), then the system will select the station with the best reception.
Set the TIM timer in the DSC-MENU.

- Press the MOD button for longer than 2 sec.

The cursor will always indicate the most recently chosen menu selection.

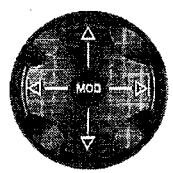
- Move the cursor to TIM TIME. Press ▶ .
- Move the cursor to NEW TIME. Press ▶ .
- Use the MOD rocker switch to set the time and press ▶ to confirm your selection.

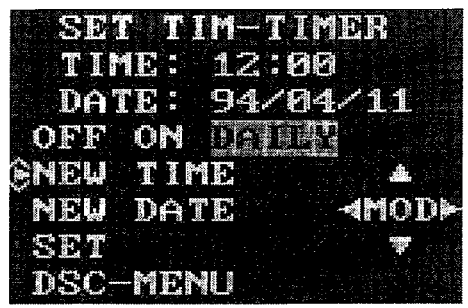
Example:



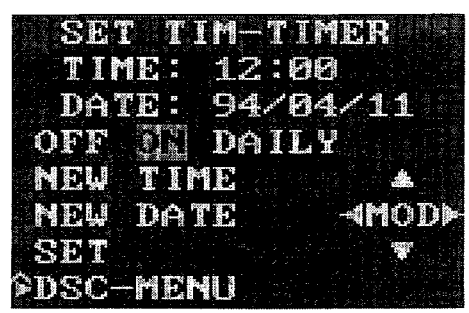

Cursor rocker switch

MOD rocker switch




Cursor rocker switch



### Switching TIM ON/OFF DAILY

You can switch TIM on and off.

You can also set TIM so that all traffic announcements are recorded daily as of a pre-determined day and time.

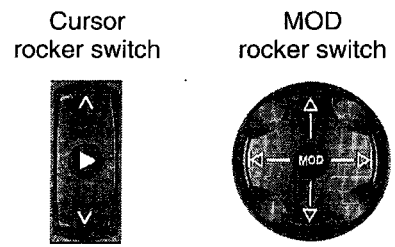
- Move the cursor to OFF ON DAILY and press ► until the desired selection is activated (highlighted).

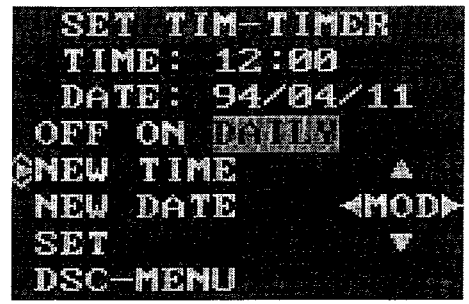
If you select "DAILY" and the recorded announcements are not retrieved for a period of three days, then the unit will make no further recordings in order to save the car battery.

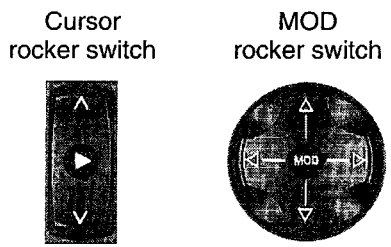
**Note:**

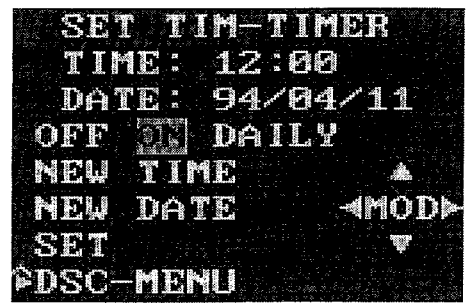
If you have selected TIM OFF, then no recordings will be made when the unit is switched off. If the unit is switched on, then the traffic announcements will be recorded in spite of the selection TIM OFF.

If you have selected TIM ON, then the tuner will remain activated for 2 hours after the unit has been switched off in order to record any traffic announcements. You cannot select both TIM DAILY and DATE at the same time.




### Altering the probable departure time

- Move the cursor to NEW TIME and press ► .

Set the time with the help of the MOD rocker switch.

- Select the time you wish to alter by pressing |◄ / ►| (will flash).
- Press △ / ▽ to set the desired time (hours/minutes) and confirm the setting by pressing ► .
- Move the cursor to STORE and press ► to confirm your selection.

**Viewing the date for the probable departure time**

- Press MOD for longer than 1 sec. until the DSC-MENU appears.
- Move the cursor to TIM TIMER and press ► to confirm your selection.

The departure time and date last set will appear on the monitor. Traffic announcements will be recorded 1 1/4 hours prior to this time.

**Setting the date for the probable departure day**

If you would like the TIM function to record traffic announcements for a specific time (day/time), then:

- Move the cursor to NEW DATE and press ► .
- Select the value you would like to change by pressing I◄ / ►I (will flash).
- Press △ / ▽ to make the selection of your choice (year/month/day) and press ► to confirm your selection.
- Move the cursor to STORE and press ?? to confirm your selection.

**NAfter making the settings**

- Move the cursor to DSC-MENU and press ► .
- Press MOD once quickly.

The system will switch back to the operating mode last used.

## Warning

### The automatic antenna may be damaged in a car wash

The automatic antenna hooked up to this system remains telescoped out when you have activated the TIM timer and then switch the unit off. It is possible that the automatic antenna may telescope out in a car wash if the TIM timer is activated but the radio switched off. You can tell that the TIM timer is activated by the illuminated asterisk in the top line of the display.

### Protective measures

In order to protect the automatic antenna in a car wash

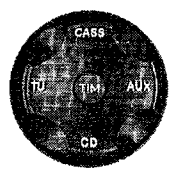
- press TIM for longer than 3 sec. with the unit switched on.

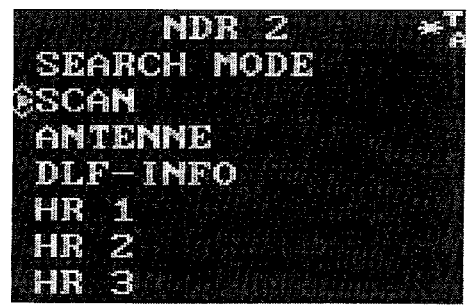
The tuner will switch off completely with a BEEP and the automatic antenna will be retracted. You can still use CASS, CD or AUX. Select TU and ANTENNA will appear on the monitor. Do not press TIM while your vehicle is in the car wash. The antenna would telescope out and perhaps be damaged! As soon as you have left the car wash

- press TIM once quickly.

The tuner will switch back on and the antenna will telescope out.

Source switch



# Using the cassette deck

The system must be switched on.

You can use the source switch to switch from almost any operating mode to using the cassette deck.

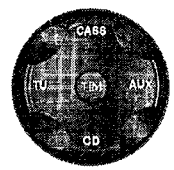
- Press CASS.

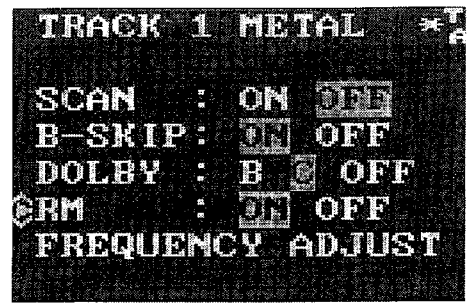
CASS is also the pause switch. PAUSE will appear in the top line of the display.

- Press CASS once again.

If there is a cassette in the deck, then this cassette will be played. If there is no cassette in the deck, then the cover will open automatically. (See inserting/removing cassettes)

Source switch




## Inserting/removing cassettes

- Press ⏏ to open the cassette deck cover.
  If there is a cassette inside, it will be ejected.
- Insert the cassette with its opening facing to the right, with side A or 1 facing up, into the deck and press it in gently. Do not use force.

The cassette will be transported to the end position automatically, the cassette deck cover will close by itself, and the cassette will begin to play.

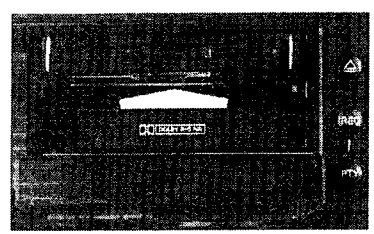
If PAUSE appears in the top line of the monitor

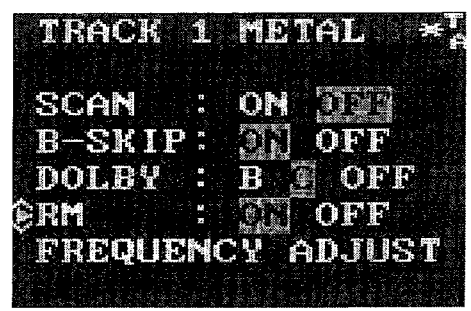
- press CASS.

**Cassette functions** will appear on the display.

If you would like to change one of the functions displayed, move the cursor to this function.

The other settings will be described in the following.



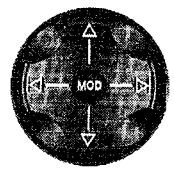


### Fast forward/rewind

– In order to start this function press either I◄ / ►I respectively on the MOD rocker switch. Stop the cassette by pressing ► .
When the end of the cassette has been reached, this function will switch off automatically.

Cursor rocker switch

MOD rocker switch



### Choosing tracks with CPS

– In order to repeat or skip any tracks on the cassette press Δ (forward) or ∇ (backward) on the MOD rocker switch.

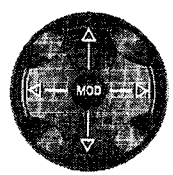
You can skip as many tracks as you like by

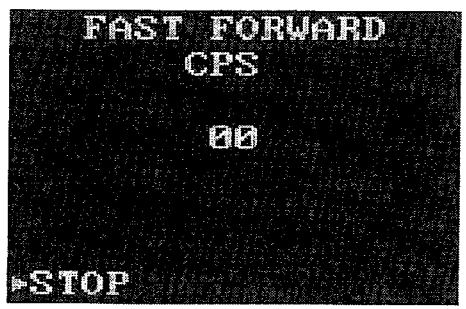
- pressing the rocker switch correspondingly.

The number of tracks skipped will be displayed on the monitor. Use the opposite switch to make any corrections.
Important: There must be a pause of at least 3 sec. between the tracks.
Quit the function by pressing ► .

Cursor rocker switch

MOD rocker switch




### Pause

– Press CASS to start or end the pause function.

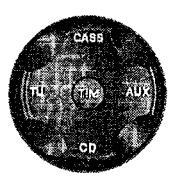
### Switching the tape side

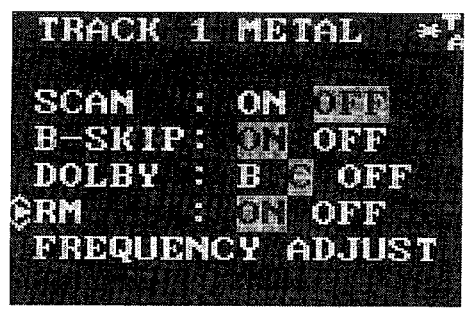
- Move the cursor to SIDE 1 or 2 and press ► .

The tape will switch over to the other side automatically at the end.

Cursor rocker switch

Source switch




### Switching the tape type

– The tape deck will switch to the correct tape type automatically (FERRO or METAL).

**SCAN**

– This function plays each track on the cassette for 8 sec.

• Move the cursor to SCAN: ON OFF

SCAN will flash in the top line of the display.

• Press ▶ to switch to ON/OFF.

At the end of the tape the SCAN function will switch off automatically.

**B-SKIP**

– Blank skip (any blanks on the tape will be skipped over)
For pauses of longer than 8 sec. on the tape, the tape will fast forward to the next track or to the end of the tape.

• Move the cursor to B-SKIP: ON OFF

• Press ▶ to switch to ON/OFF.

**DOLBY**

– Dolby NR* is a noise reduction designed specially for playing cassettes which have been recorded using either Dolby B-NR or C-NR. Dolby C-NR is a further improvement on Dolby B-NR and it reduces unwanted noise even further.

• Move the cursor to DOLBY: B C OFF and press ▶ .

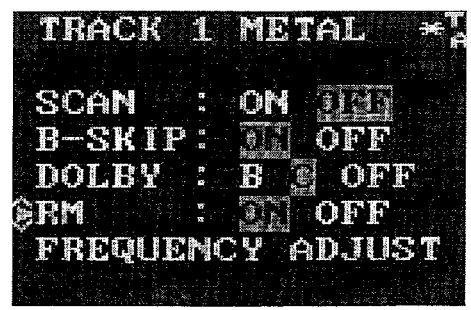
* Noise reduction system produced under the licence of Dolby Laboratories. The word Dolby and the symbol double D are trade marks of the Dolby Laboratories.

**RM** (**R**adio **M**onitor)

– Listening to the radio while the tape is fastforwarding (also for CPS, SCAN, B-SKIP).

• Move the cursor to RM: ON OFF and press ▶ .

Cursor
rocker switch

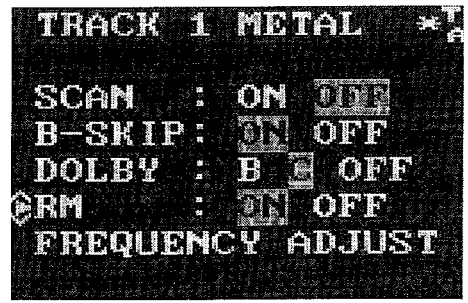


**Frequency adjust**

– for selecting a new station, a traffic information station, without interrupting the cassette playback.

- Move the cursor to FREQUENCY ADJUST and press ▶ .
  Press ▶ to confirm your selection (press once quickly).
  The complete menu for radio operation will appear on the monitor.
  You can make any adjustments you would like without interrupting the cassette playback.
  If you would like to make an adjustment, you will find the information necessary in the sections Using the radio and Traffic information.
  The monitor will automatically switch back to the menu for cassette operation if no adjustments are made for 8 seconds.
- Press CASS to switch the monitor back immediately.

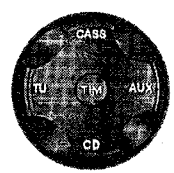
Cursor rocker switch




**Ending cassette playback**

- Use the source switch to select a different function (TU, CD or AUX). You can leave the cassette in the unit. To protect your cassettes, it is advisable to keep them in a closed box if they are not used for longer periods.

Source switch



## Care of cassettes and cassette deck

In your car we recommend using only cassette tapes C60/C90. Protect your cassettes from dirt, dust and temperatures exceeding 50 °C. Allow cold cassettes to warm up somewhat before playing them to ensure smooth operation. Problems with the drive and the sound may be caused by dust on the rubber roller and the audio head after approximately 50 hours of operation.
In normal cases, you can clean your cassette deck with the help of a cleaning cassette. If the cassette deck is extremely dirty, we advise you to consult a qualified customer service workshop.

## Clean timer

– Timer for recording hours of cassette operation.
This unit is equipped with a clean timer. After 50 hours of cassette operation, the following will appear on the monitor:
"CLEAN CASSETTE PART".

The audio head and rubber roller should be cleaned soon to ensure optimum sound quality.
The cursor will indicate IGNORE.

- Press ▶ .

The cassette functions will appear on the screen once again.
This cleaning message will appear each time the cassette deck is switched on.

After you have cleaned the deck, use RESET TIMER to set the timer back to zero:

- Move the cursor to RESET TIMER and press ▶ .

## DSC settings for cassette operation

In the DSC mode, you can alter any of the settings for the cassette functions listed there.
If you wish to make an adjustment, you will find all of the information necessary in the section "Programming with DSC".

**SOURCE LEVEL**

– Adjusting the volume level for the different signal sources.

# Using the CD changer

## Notes

### . . . on CDs

A dirty or damaged CD can cause sound problems. In order to ensure the best quality possible, please follow these instructions:
Keep your CDs clean and pick them up by their edges only! Never touch the blank side!
If necessary, clean the CD before playing it with a cloth designed for this purpose. Wipe the surface of the disk from the inside to the outside!
Do not use any fluids such as gasoline, paint thinner, antistatic sprays or cleaning fluids for LPs!
Never put any stickers on the CD!
Protect your CDs from sunlight and high temperatures.
Do not leave your CDs in your vehicle when it is parked directly in the sun.
The high temperatures reached in the vehicle may damage the CDs.

### . . . on the changer magazine

Protect the magazine from high temperatures and dampness.
Keep the changer out of direct sunlight (not on the dashboard or the rear window shelf)!
Insert only one CD in each of the compartments, otherwise both the CDs and the CD changer could be damaged!
Protect the magazine from bumps and jolts!

## Changer magazine

### Loading the magazine (Fig. 1)

When loading the magazine, make sure that you insert only one CD with the writing facing up into each compartment (otherwise damage may occur).
Any of the compartments may remain empty.

Note:
In order to play an 8-cm CD use an adapter designed for this purpose. Attempting to play an 8-cm CD **without** an adapter may result in damage to the unit.

### Removing CDs from the magazine

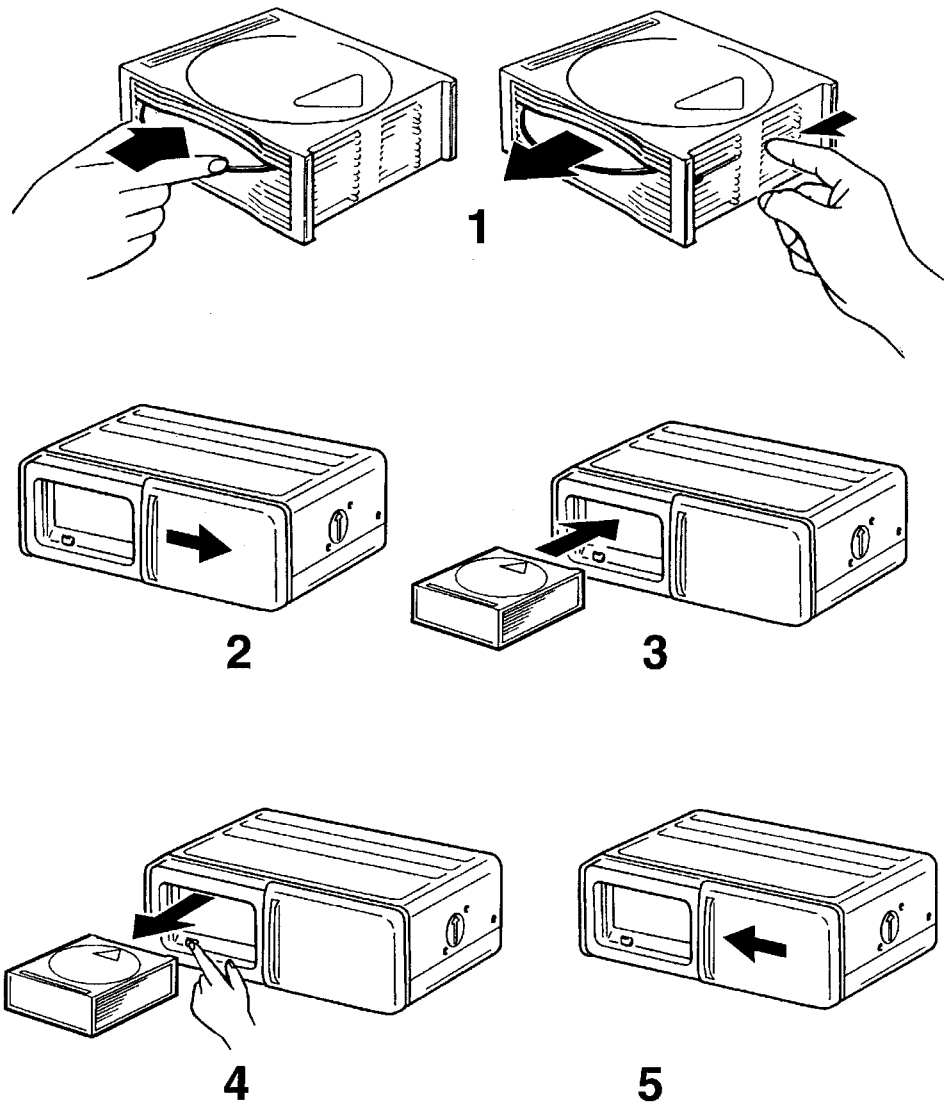
Push the blue slide with the corresponding number toward the opening of the compartment and remove the CD.

### Inserting the magazine

- Open the cover (Fig. 2). (Slide it all the way to the right.)
- Insert the loaded changer magazine and push it all the way in (Fig. 3).
- Slide the cover to the left (Fig. 5).

### Removing the magazine

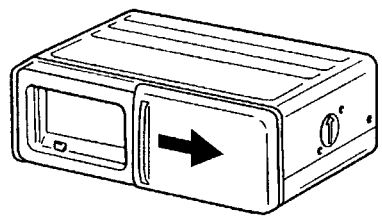
Remove the magazine only when the CD player is switched off.



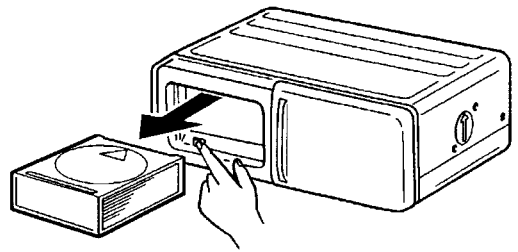
**Important:**

- Be sure to slide the cover all the way to the right (Fig. 2), otherwise you may damage the changer and the magazine.
- Press the button marked ≙ (Fig. 4)

The magazine will be transported automatically to the position at which you can remove it.



2



4

### Note on moisture build-up

Rainy weather or changes in temperature can lead to a build-up of moisture on the laser beam's focussing lens and impair the functioning of the CD player. In this case, wait until the moisture has evaporated.

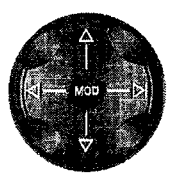
## CD playback

You can use the source switch to switch from almost any operating mode to CD operation:

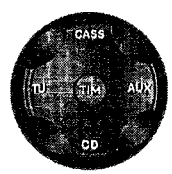
- Press CD.

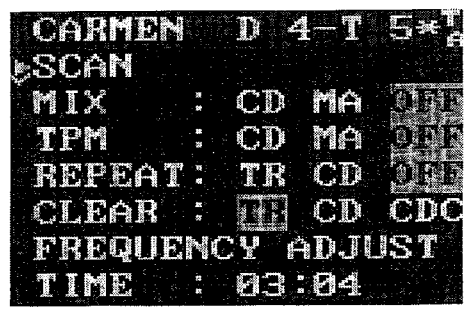
The magazine will be tested after it has been inserted. If the CD player is activated during this test run, then the message "MAGAZINE IS BEING CHECKED" will appear on the monitor.
If you select one of the CDs, then the following information will appear briefly in the top line of the display: the CD's position in the magazine, the total number of tracks and the total playing time,
e. g. 08/12 45:23
Following this, the CD menu will appear. Push the button marked CD once again and the CD list will appear from which you can select a CD directly.

MOD
rocker switch




Source
switch



If a loaded magazine has been inserted into the changer, then the playback will begin with (DISK 01, TRACK 01) as long as no other settings have been made.
CD functions or the selection list will be displayed on the monitor. Switch between these two choices by pressing CD.
DISK 1 -TRACK 1 or the disk name you have entered with the addition of D 1 - T 1, for example, will appear in the top line of the display.

**Selecting a CD** with the MOD rocker switch

- press ▶| (up) or
  |◀ (down) on the MOD rocker switch.

Depending on the setting, either the disk number or the disk name and the track number will appear in the top line of the display.

**Selecting a track** with the MOD rocker switch
Upwards:

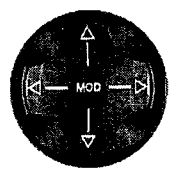
- Press △.

If you hold △ pressed down, then the system will activate an audible CUE.
Downwards:

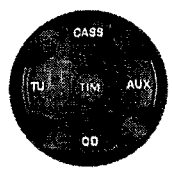
- Press ▽ twice or repeatedly.

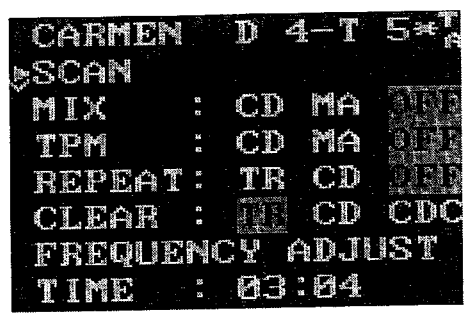
If you press ▽ only once, then the current track will be repeated.
If you hold ▽ pressed down, then the system will activate an audible REVIEW.

MOD
rocker switch




Source
switch



**FREQUENCY ADJUST**

– for selecting a new station, a traffic information station, without interrupting the CD playback.

- Move the cursor to FREQUENCY ADJUST and press ▶ . Press ▶ to confirm your selection (press once quickly). The complete menu for radio operation will appear on the monitor. You can make any adjustments you would like without interrupting the CD playback.
  If you would like to make an adjustment, you will find the information necessary in the sections **Using the radio** and **Traffic information**.
  The monitor will automatically switch back to the menu for CD operation if no adjustments are made for 8 seconds.
- Press CD to switch the monitor back immediately.

**MIX**

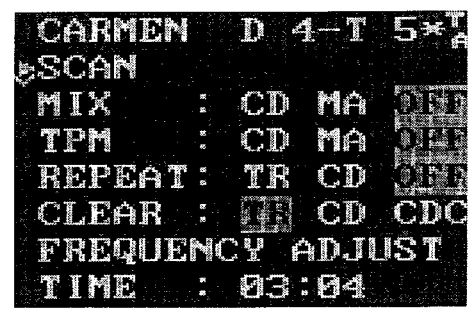
– CD tracks can be played in random order.
  If you use the MIX feature for a CD, then the tracks will be played in random order. The other CDs will follow in numerical order.
  If you use the MIX MA (magazine) feature, then all of the tracks on the CDs in the magazine will be played in random order.
  If the MIX feature has not been activated, then the tracks will be played in numerical order.

Activating the function:

- Move the cursor to MIX.

Press ▶ to switch to **CD**-Mix, **MA** (magazine mix) or MIX **OFF**. You can also combine MIX with TPM and REPEAT.

Cursor rocker switch



**TPM**

– Track Program Memory
  You can store up to 100 tracks using TPM.
  When TPM has been activated, then only the tracks selected will be played in the order given. Any track may be stored more than once.
  When both MIX and TPM have been activated, then the stored tracks will be played in random order.

**Storing tracks with TPM**

TPM OFF (highlighted) must be displayed on the monitor.
If not;

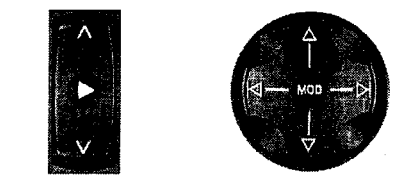
- move the cursor to **TPM** and
- press ▶ until OFF is highlighted.

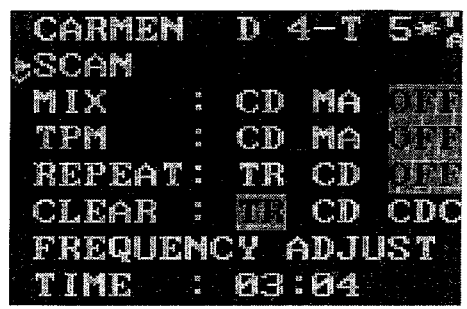
Now you can store tracks.

- Select the CD by pressing ⏮ / ⏭ and the track by pressing △ / ▽.
- Press ▶ for longer than 1 sec. until you hear a beep which confirms that the track has been stored.

The dot appearing after the CD number in the selection list and after the time display indicates that this track has been stored in TPM.

- Select the next track in the magazine and proceed as described above.



**Playing stored TPM tracks**

You can play the TPM tracks for one CD or for the entire magazine.

- Move the cursor to TPM and press ► to select either CD or MA (magazine).

The TPM tracks will be played in the order in which they are stored. If MIX CD or MA has also been activated, then the TPM tracks for the CD or for the entire magazine will be played in random order. If SCAN has been activated (will flash), then the TPM tracks will be scanned through.
If TPM is activated while a non-TPM track is playing, then the system will automatically switch to a TPM track.

**REPEAT**

– To constantly repeat one track (TR highlighted) or the entire CD (CD highlighted)

If CD REPEAT TPM has been activated, then only the tracks selected from this CD with TPM will be repeated.
Switching the function:

- Move the cursor to REPEAT and press ► .

**CLEAR**

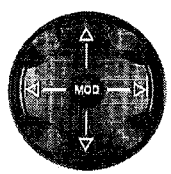
– will delete TPM settings
for one track (TR)
for one CD (CD)
for all TPM tracks (CDC).

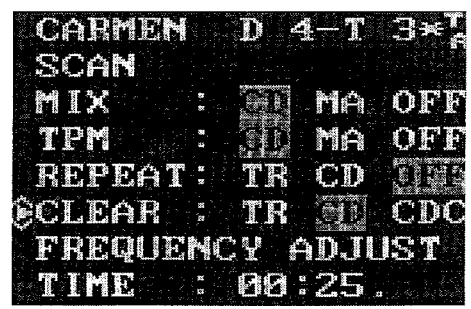
If you wish to delete:

- move the cursor to CLEAR and
- press ► to select one of the functions and then press ► for longer than 2 sec.

Cursor rocker switch

MOD rocker switch



If you have selected CDC (delete all TPM tracks) and press ► for longer than 2 sec., a warning message will appear on the monitor.
If you would like to delete all of the tracks stored with TPM,

- move the cursor to YES, otherwise to NO, and then press ► to confirm your selection.

**TIME**

– displays the actual playing time of a track

# Audio settings

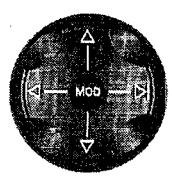
**Volume**
Each time the set is switched on, the unit will automatically play at the volume level pre-set at the factory.
Turn the volume knob to make any adjustments.

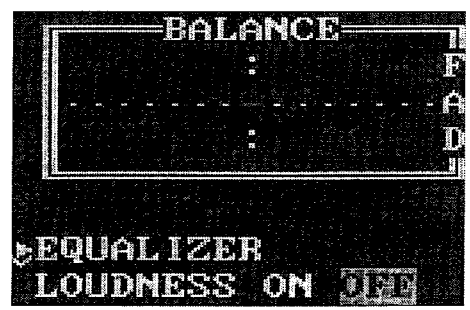
**Bass, treble**
The bass and the treble can be adjusted for any of the operating modes, however, this is only displayed for TU, CASS and CD.
In order to make any adjustments, press the button to release it to the out position and then turn it. The cursor will indicate the setting on the monitor (minimum on the left, maximum on the right).

**Balance, fader**
Balance - sets volume relationship for left and right loudspeakers
Fader - sets volume relationship for front and rear loudspeakers.
To adjust the setting:

- Press the MOD button once quickly.
  A horizontal line indicates the medium setting for balance and fader on the monitor. If the fader is moved away from the middle, then a directional arrow will appear either on the top or bottom right-hand side. If you move the fader further away from the middle, then the line will become a square, whereby the current setting will be visualized at its tip.
  If you move the balance away from the middle, then a directional arrow will appear at the top of the monitor on either the left or the right-hand side. The line or the square will move to the right or the left.

MOD
rocker switch



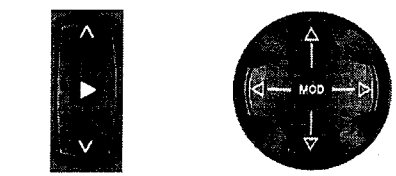



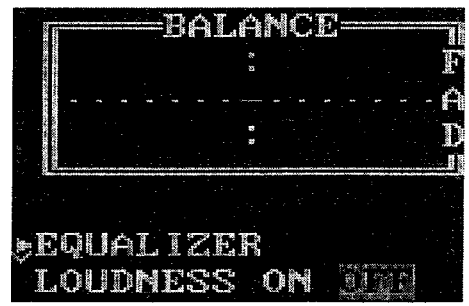
The arrows at the sides indicate the tendency. If there are no arrows, then the volume setting is the same for all of the loudspeakers.

- Use the MOD rocker switch to adjust the volume as you wish.

After completing the adjustment

- press the MOD button once quickly
- or select another function with the cursor (EQUALIZER or LOUDNESS) and adjust these settings.




## Loudness

Adjusts the quiet bass sounds to the human ear.
Switching loudness on or off:

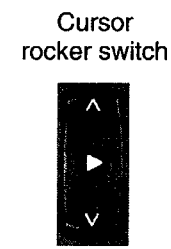
- Press the MOD button once quickly.

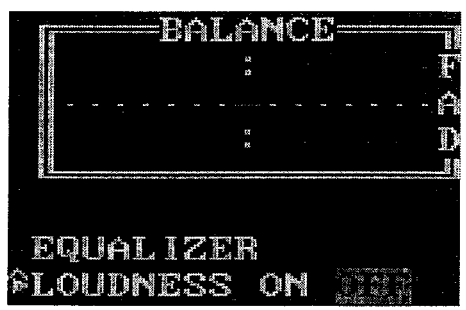
The display for tone control will appear on the monitor.

- Move the cursor to loudness.
- Press ► to switch loudness on or off.

You can adjust the intensity for loudness in the DSC mode under LOUDNESS.
Returning to the original menu:

- Press the MOD button once quickly.



## Equalizer

The Hi-fi sound in your vehicle is affected by such things as the vehicle's interior (cushioning, windows), the order and distance of the loudspeakers to the human ear. You can choose between

a) Hi-fi 4-channel sound adjustment with transmit time compensation
   or
b) manual setting for two front channels and two rear channels without transmit time compensation.

### a) Hi-fi adjustment

The self-adjusting digital equalizer sets each individual loudspeaker (channel) according to the acoustic conditions inside the vehicle correctly and also compensates for the different transmit time caused by the difference in distance to the seating position (ear). In this way, a spatial reproduction of the individual instruments in an orchestra can be created.

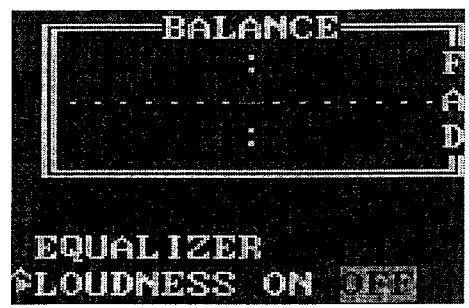
### b) Manual equalizer adjustment

Of course you can also adjust the equalizer manually. Nine different frequency ranges can be set and stored separately for front and rear loudspeakers.

### Switching the equalizer on/off

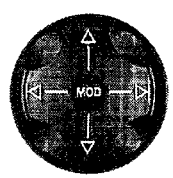
- Press **MOD** once quickly.
- Move the cursor to equalizer and press ► .
- Move the cursor to EQ and press ► to switch the equalizer on/off.

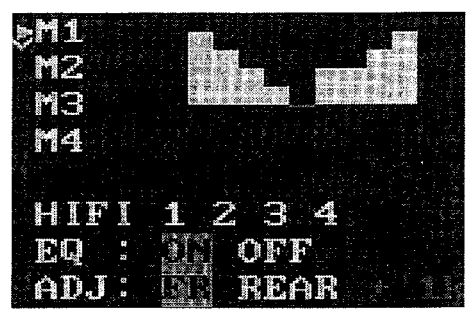
Cursor rocker switch




Cursor rocker switch

MOD rocker switch



- Move the cursor to S1, for example.
- Use the MOD rocker switch to adjust the frequency bands.

### Self-adjusting equalizer setting

A qualified mechanic will have adjusted the Hi-fi quality of your set immediately after its installation. You can repeat this procedure by following these instructions, for example, after having altered something in the interior of your vehicle.
In order to make this adjustment, you must be in a very quiet area. Any external noises will make the adjustment inaccurate.
The system must be switched on. Proceed as follows:

- Press MOD once quickly.

The display for balance/fader will appear on the monitor.

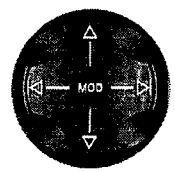
- Move the cursor to EQUALIZER.
- Press ► .
- Move the cursor to EQ.
- Press ► to switch the equalizer to ON.

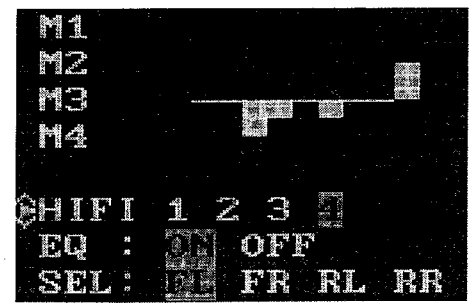
The equalizer menu will appear on the monitor.

- Move the cursor to HI-FI.
- Press ► to select position 1 for the first (most common) situation.
  Press ► to move through the positions (1, 2, 3, 4, 1 . . .).

Cursor rocker switch

MOD rocker switch



You can select the following situations, for example,

1 for the driver alone
2 for the driver and passengers
3 for passengers
4 for passengers in the rear of the vehicle.

This is only one possible example.
You can change the situations at any time as you wish.

**Note:**
Subwoofer systems should be deactivated while these adjustments are being made and first switched back on after all the adjustments are completed.
After this selection

- press ► for approximately 4 sec.

A warning message will appear on the monitor.

- Check to see whether you really want to alter the setting or not.
- Move the cursor to the desired position by pressing the cursor rocker switch.

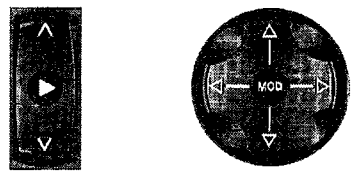
If you move the cursor to **YES**,

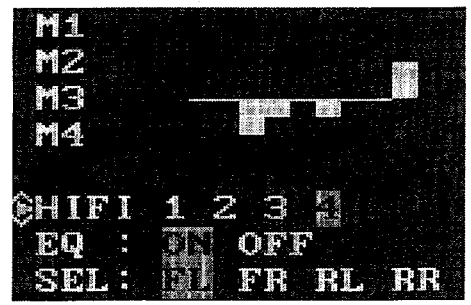
- place the microphone in the proper position.

While making this sound adjustment, place the microphone where your head or ear is normally positioned when you are seated in the vehicle. The opening must be hanging in a vertical position facing down. Ensure that there is "visual contact" between the microphone and each of the loudspeakers. You may have to lower the headrests.

- Press ► to confirm your selection.

At this point you have the last opportunity to stop this procedure. If not, you must leave the vehicle immediately for the duration of the sound adjustment. After a countdown of 10 sec. the fully automatic sound adjustment will begin. During the countdown make sure that everything remains as quiet as possible.



During the sound adjustment process, "Adjusting" will flash on the monitor. After the process has been completed, reposition the microphone for another adjustment.

- In order to do this, select the next storage location by pressing ► , for example as described in the sketch of the vehicle, and proceed according to the instructions above.

**Important!**

During the adjustment process, the balance and fader will automatically be set to mid-range and the loudness to OFF. This ensures an electrically linear frequency response. In order to achieve this after the adjustment process is complete, then set the balance/fader, the bass/treble to mid-range and the loudness to OFF.

### Retrieving the Hi-fi sound adjustment

- Press the MOD button once quickly.

The display for tone control will appear on the monitor.

- Move the cursor to equaizer and
- press ► to confirm your selection.

The display for setting the equalizer will appear on the monitor.

- Move the cursor to HIFI.

You can choose from among the following situations, for example:

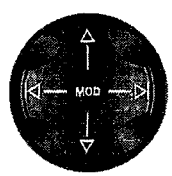
1 for the driver alone
2 for the passengers alone
3 for the driver and the passengers
4 for the central point of the vehicle.

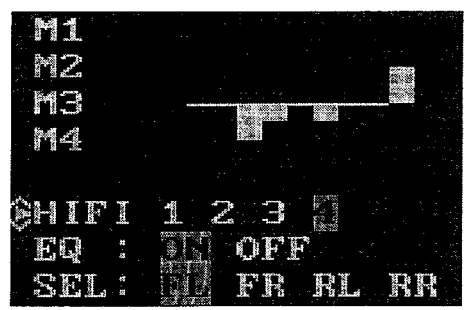
- Press ► to select the position which corresponds to your current driving situation. Press ► to move through the positions (1, 2, 3, 4, 1 . . .).

Your selection here will control the loudspeakers according to their programming.

Cursor rocker switch

MOD rocker switch



### Using the automatic equalizer setting

After setting your four most common situations, you can view the corresponding graph in the upper half of the monitor.

- Move the cursor to SEL and press ► to select FL, FR, RL or RR.

### Making equalizer adjustments manually

You can set up to nine different frequencies ranging from 60 Hz to 16 kHz for the front and rear loudspeakers separately.

You can also store the settings for the four situations (with S1 to S4).

If you would prefer to adjust the equalizer manually, then proceed as follows:

- Press MOD once quickly.
- Move the cursor to equalizer.
- Press ► .

EQ (equalizer) must be switched to ON. If necessary,

- press ► to switch to ON.
- Move the cursor to S1 ... S4 to adjust the equalizer manually.

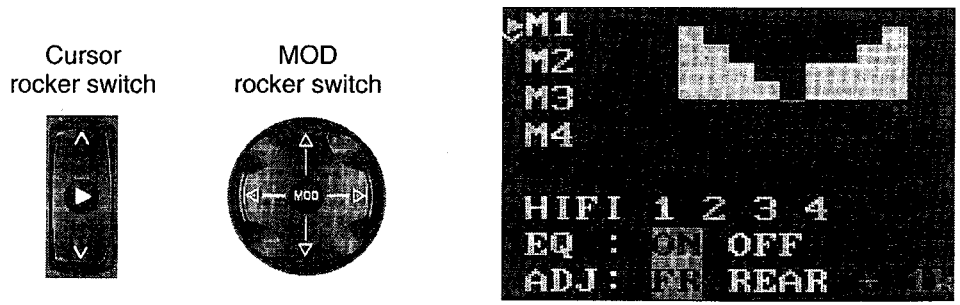
Decide whether you want to adjust the front (FR) or the rear (REAR) loudspeakers. If necessary,

- move the cursor to **ADJ** and press ► to switch to the desired selection.

### Activating the storage location/changing the settings

- Move the cursor to storage location S1 ... S4 and press ► to activate it.

A bar graph will illustrate the current settings for the front (FR) or the rear (REAR) loudspeakers.



Switching the display between FR and REAR:

- Move the cursor to S1 (select) and switch by pressing ► .
- Press I◄ / ►I on the MOD rocker switch to select the frequency range (60 Hz to 16 kHz).
- Press △ / ▽ to raise or lower the frequency.

**Storing the setting:**

- Press ► for approximately 1 sec. S1 will appear on a grey background.

If you press ► too quickly, the setting will be deleted and the previous value displayed.
Adjust the level of the equalizer in all of the frequency ranges for the front and the rear loudspeakers.

**Retrieving manual equalizer settings:**

After you have made the adjustments for all four of the most common situations, you can retrieve these as required:

- Move the cursor to S1, S2, S3 or S4 and
- press ► once quickly.

**Completing the Hi-fi/equalizer adjustment:**

- Press MOD twice (return to original menu)

or

- switch to the desired sound source using the source switch.

# Programmiing with DSC

Your Berlin RCM 303 A makes it possible for you to adjust numerous settings and functions to meet your own special needs and to store them.
Many of the functions have already been set at the factory.
You can reactivate the FACTORY DEFAULT settings for these functions at any time, even when everything has been altered.
In the description, these functions are indicated by an asterisk (*), the value in brackets is the default setting.
You can also enter our own personal values in the marked field.

**Important!**
**For the sake of traffic safety, do not attempt to make any adjustments to the DSC settings while your vehicle is in motion.**

## Altering the programming

If you would like to alter any of the programming,

- press MOD for approximately 2 sec. until the DSC-MENU appears.

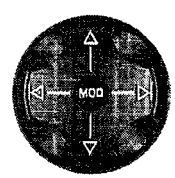
Depending on the setting selected, you can use the MOD rocker switch to either page through or scroll through the DSC-MENU. You will find further information on this in the section MODE PAGE SCROLL.
Use the cursor rocker switch to select the desired function.

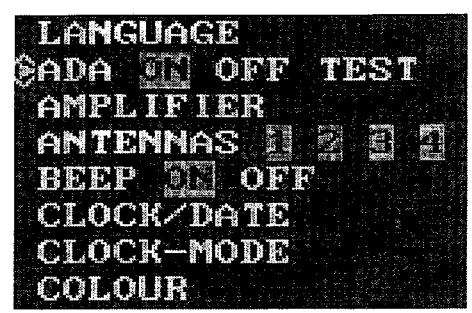
- Move the cursor to the function you would like to alter and
- press ► to confirm your selection.

The DSC functions are listed alphabetically and are explained one after the other. LANGUAGE is the only exception. It is in first position

Cursor rocker switch

MOD rocker switch



so that you can always locate this menu selection, even in a foreign language.
You can exit the DSC-MENU by

- pressing MOD once quickly or selecting an audio source.

The unit will then return to the operating mode last used. Please read the information on the settings you wish to alter first.

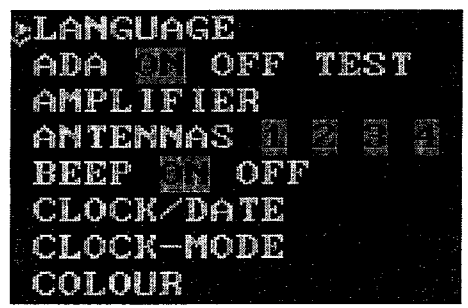
## Adjustable settings

### LANGUAGE

– for selecting the menu language on the monitor:
INTERNATIONAL (English) has been pre-set at the factory.

- Move the cursor to LANGUAGE and press ▶ to confirm your selection.
- Move the cursor to the language desired and
- press ▶ to confirm your selection.
- Move the cursor to DSC-MENU.
- Press ▶ to return to the overview of the adjustable functions in the DSC-MENU.

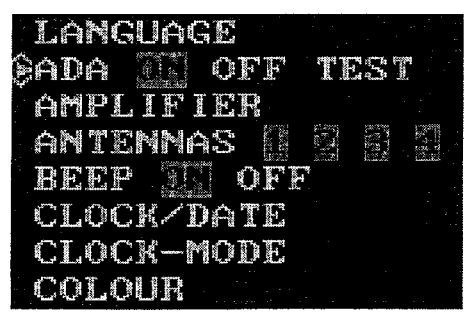
Cursor
rocker switch




### ADA ON OFF TEST* (ON)

– for switching on/off and testing the ADA system for FM reception.
An up to 4 ADA tuner and a background receiver ensure excellent reception quality.
You will only be able to appreciate the full effects if four antennas are hooked up to this system.
If ADA ON has been set, then the ADA function will be activated and the number of antennas displayed. If ADA OFF has been set, then only the main antenna 1 will be switched on.

Cursor
rocker switch



This function is only suitable for test purposes and not for driving.
TEST tests the antennas individually.
When 4 antennas are connected, you will receive the best quality reception. More than 80 % of the multi-way reception distortions will be eliminated.

– The test is described in the section "Antennas 1, 2, 3, 4".

• Switch the setting by pressing ► .

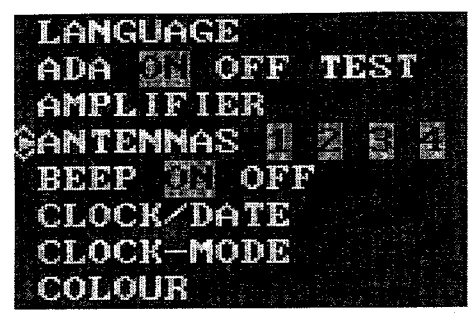
**ANTENNAS 1 2 3 4**

– When ADA ON has been activated, then you can display the number of active antennas by pressing ► .
– In the test mode, the operation of the individual antennas/tuners are be checked.

**Important!**
**Activate this function only when your vehicle is stationary.**
You must be tuned into a FM radio station.

• Set ADA to **TEST** (Move the cursor to ADA and press ► until TEST is activated).
• Move the cursor to Antennas.
• Press ► to activate each antenna one after the other and check to see whether it is possible to receive the station with each antenna connected. If one of the antennas provides poor reception for the station, then move the vehicle about one metre (you may have to do this several times).
If the reception of this antenna does not improve as compared to the other antennas or the station cannot be received at all after you have changed the vehicle's position several times, then we recommend that you consult a qualified mechanic.

Cursor
rocker switch



**BEEP ON OFF**

– confirms the functions which are not displayed on the monitor.

Activating the function:

- Move the cursor to BEEP and switch the setting by pressing ► .

We recommend that you set BEEP to ON, so that you will hear a beep to confirm that you have stored data or completed other important functions successfully.

The BEEP volume can be adjusted together with the TIM-/TA LEVEL.

**NAMING CDs**

– You can give up to 99 CDs a name containing seven letters or numbers.

<u>Entering the name:</u>

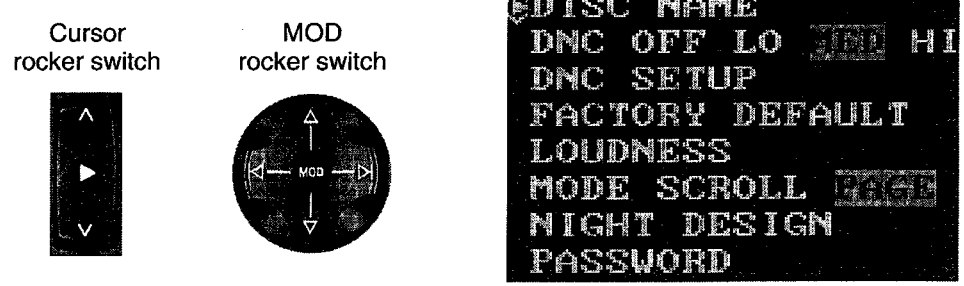
There must be a magazine in the CD changer and the automatic check must be completed.

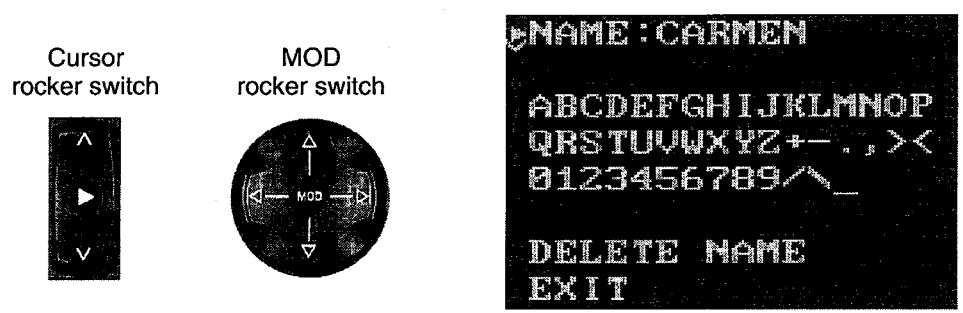
- Move the cursor to DISC NAME and press ► to confirm your selection:
- Move the cursor to the CD you wish to name and press ► to confirm your selection. Wait until playback begins and then
- move the cursor to NAME and press ► to confirm your selection.

An entry field is located after NAME.

In the alphanumeric selection list (A ...Z; 0 ... 9; special characters), the character currently selected is highlighted.

- Select the characters using the MOD rocker switch (press quickly).



Making corrections:

- Press either I◄ / ►I on the MOD rocker switch to move the entry field to the character which is to be corrected.
  To do this
- press the MOD rocker switch for approximately 1 sec.
  I◄ the entry field will move to the left
  ►I the entry field will move to the right, perhaps adding blank spaces.

Select the new character and press ► to confirm your selection.
The blank space is located in the last position after "–".

Changing a CD name:

You can do this by writing over the old name.
Proceed as for "Entering the name", but

- place the marker on the first character to be altered,
- select a new character and press ► to confirm your selection.

Change the characters one after the other.

Deleting a CD name:

You can delete the name of a CD completely.
Proceed as for "Entering the name", but

- move the cursor to DELETE NAME and press ► to confirm your selection.

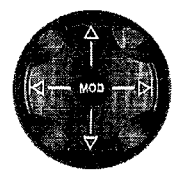
After finishing your entry

- move the cursor to EXIT and press ► to confirm your selection.

It can take from 20 to 45 sec. to store a name depending on the data involved. EXIT will flash during this time.

Cursor rocker switch

MOD rocker switch



Note: Because of the system used, the name entered can be used only after the unit has been switched off and then on again.

**DNC OFF LO MED HI ***

DNC - digital noise cover

This setting should be made after the menu selection DNC SETUP. Vehicle noise disturbances can occur in several frequency ranges. DNC is able to identify and cover noise with the help of a stronger wanted signal in several ranges.

The volume will be adjusted ideally to the acoustic conditions specific to the vehicle for all the frequency ranges and under all conditions.

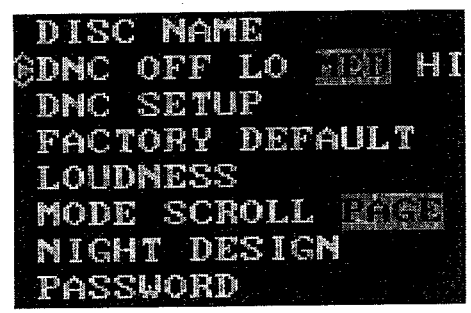
– Use this setting to switch DNC ON/OFF or to set the efficiency.
  LO = low
  MED = medium
  HI = high

Activating the function

- Move the cursor to DNC OFF LO MED HI and switch to the desired setting by pressing ► .

Check to see which setting you like the best and select this one. You can also switch DNC to OFF.

Cursor rocker switch



**DNC SETUP**

– for adjusting the noise cover to the acoustic conditions in the vehicle once.

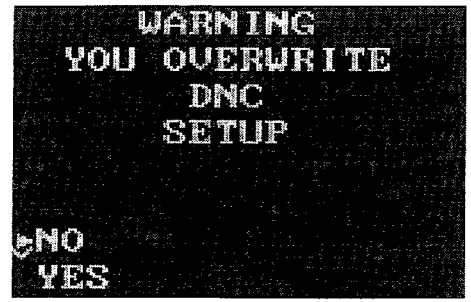
After making this menu selection, then the following display will appear:

Selecting YES starts a countdown from 10 to 0, during which you must leave the vehicle and ensure that everything is quiet. The setup procedure will then start automatically.

NO will return you to the DSC-MENU.

**Important:** During this setup process the microphone must not be removed from the position recommended by the dealer. The engine should be switched off.

Cursor rocker switch




**SENSITIVITY * (1)**

– for altering the sensitivity of the automatic search function for local reception (LOCAL) and for distance (DX).
"1" is the most sensitive setting.

Activating the function:

- Move the cursor to SENSITIVITY and press ► to confirm your selection.
- Move the cursor to LOCAL and press ► to make your selection.

LOCAL 3 is only useful in areas where there is a high density of stations (e. g. in large Italian cities).

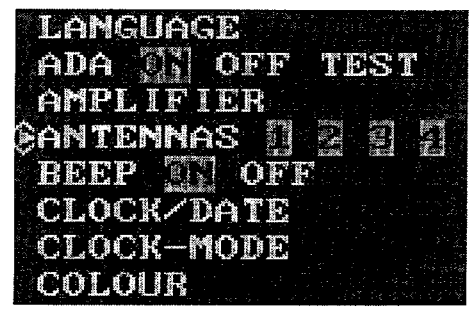
- Move the cursor to DX and press ► to make your selection.

Completing the adjustment:

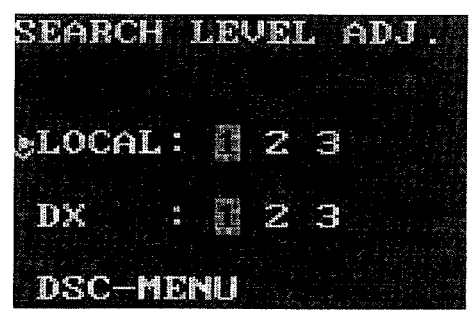
- Move the cursor to DSC-MENU and press ► to confirm your selection.

These settings apply to the search function for all frequency ranges, but they have no effect on the station table.

Cursor rocker switch




Cursor rocker switch



**COLOUR** * (Factory parameters)

– for altering the monitor colours for the background and the information.

Activating the function:

• Move the cursor to COLOUR and press ▶ to confirm your selection.

The colours which have been set at the factory will be displayed on the monitor for

BACKGROUND
FOREGROUND
MESSAGES
CURSOR
PREFERENCE MENU (storage table)

The 16 colours which you can choose from will be displayed on the right-hand side of the screen.

• Move the cursor to the position you wish to alter.

• Press ▶ to alter the colour.

Completing the adjustment:

Colours which make the information on the monitor too difficult to read, for example black writing on a black background, cannot be chosen together.

• Move the cursor to DSC-MENU and press ▶ to confirm your selection.

You can choose FACTORY DEFAULT to return to the original colours.

Cursor
rocker switch

**LOUDNESS**

– for adjusting the quiet bass sounds to the human ear.

Before making this adjustment, set the bass and treble to the middle range.

Activating the function:

- Move the cursor to LOUDNESS and press ▶ to confirm your selection.

Use the MOD rocker switch to alter the setting.

The current value is displayed after LEVEL:

1 bass raised to the smallest degree
6 bass raised to the greatest degree

Completing the adjustment:

- Move the cursor to DSC-MENU and press ▶ to confirm your selection.

After making this adjustment, you must set loudness in the balance/ fader menu to ON.

**MODE SCROLL PAGE*** (Page)

– When moving the cursor you can choose whether to page or scroll up and down through the text up to the second last line.

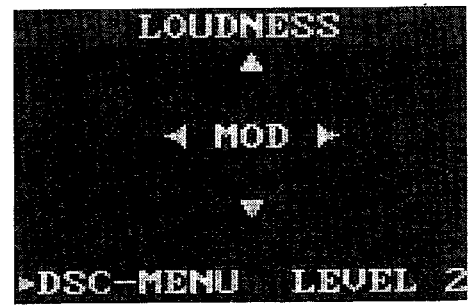
Activating the function:

- Move the cursor to MODE SCROLL PAGE and press ▶ to make your selection.

The function selected will be highlighted.

Cursor rocker switch

Cursor rocker switch



## NIGHT DESIGN

– The colour of the illumination of the operating panel (night design) can be adjusted to match the colour of the dashboard illumination continuously from green to yellow to red.

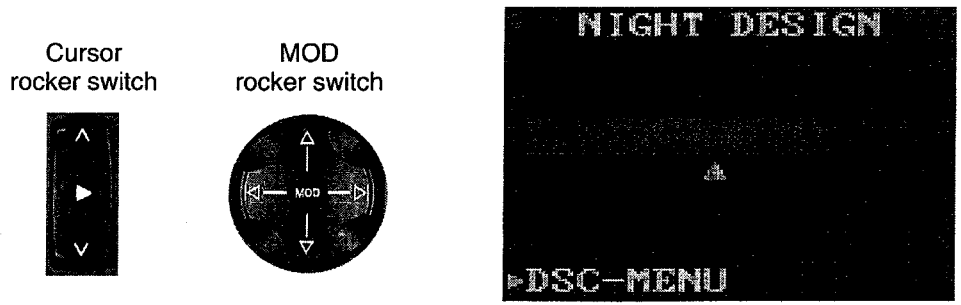
Activating the function:

• Move the cursor to NIGHT DESIGN and press ▶ to make your selection.

A red-green scale with an arrow indicating the currently selected colour underneath will appear on the monitor.

Altering the colour:

• Press I◀ or ▶I on the MOD rocker switch as often as is necessary.




## PASSWORD

– for entering a password (max. 8 characters) and the car licence plate number (max. 10 characters)
This not only means that the Berlin cannot be switched on after being stolen, but it is also easier to find the rightful owner with the help of the licence plate number.

Important!

Be sure to enter your own personal password in the car radio passport and keep it in a safe place (not in the vehicle).

A password consisting of both letters and numbers offers the best protection. Do not use any names, such as Rose or other person's names, alone, as they may be easy to find out.

If the power supply to your radio is interrupted for any reason and you have forgotten the password, then all you have to do is look into the passport.

Entering or altering the password:

- Move the cursor to PASSWORD and press ▶ to confirm your selection.

NEW PASSWORD will appear on the monitor if no password has yet been entered, or

CHANGE PASSWORD
DELETE PASSWORD

if a password has already been entered.

Cursor rocker switch

Making corrections:

- Press I◀ / ▶I on the MOD rocker switch to move the entry field to the character which is to be corrected. To do this
- hold the MOD switch down for approx. 1 sec.
  Press I◀ and the entry field will move to the left.
  Press ▶I and the entry field will move to the right and perhaps add blank spaces.

Select a new character and press ▶ to confirm your selection.
The blank space is located in the last position after "–".

Cursor rocker switch

Entering the password:

(NEW PASSWORD is displayed on the monitor)

- Press ▶ to confirm your selection.
- The cursor indicates PASSWORD, press ▶ to confirm your selection.

The first entry field is marked.

- Select the first of a maximum of 8 characters for the password with the help of the MOD rocker switch.

Cursor rocker switch

The character which is highlighted will be entered at the position indicated

- when you press ▶ .

The marking will move to the next entry position.

- Continue until you have completed the password.

Cursor rocker switch

Entering the car licence plate number:

- Move the cursor to CAR-NUMBER and press ▶ to confirm your selection.

Select and enter the characters in the same way as you did for "entering the password".

As soon as the password and car number are completely entered, you can STORE them.

Cursor rocker switch

- Move the cursor to store and press ▶ .

Now EXIT the function PASSWORD:

- Move the cursor to EXIT and press ▶ .
- Move the cursor to DSC MENU and press ▶ .

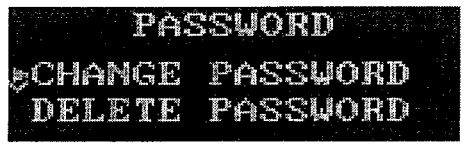
Changing the password:

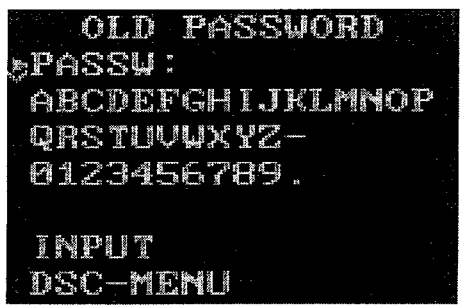
(CHANGE PASSWORD
DELETE PASSWORD appear on the screen)

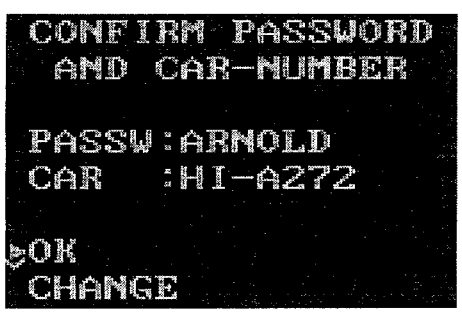
- Move the cursor to CHANGE PASSWORD and
- press ▶ to confirm your selection.
- Move the cursor to PASSWORD and press ▶ to make your selection.

OLD PASSWORD will appear on the monitor.

- Now enter the currently valid password as described for ENTERING THE PASSWORD.





When this password has been entered correctly,

- move the cursor to STORE and confirm.

NEW PASSWORD will then appear on the monitor.

- Now enter the new password/car number.

As soon as the new password and car number have been entered correctly, you can STORE them:

- Move the cursor to STORE and press ▶ .

The password and the car number will appear on the monitor to be confirmed. If you enter the password incorrectly or the wrong one, then WRONG PASSWORD will appear briefly on the screen. Now enter the password correctly.

If everything is OK,

- move the cursor to OK and press ▶ .

After you have completed your entry:

- Move the cursor to EXIT and press ▶ ,
- Then move the cursor to DSC-Menu and press again.

Cursor
rocker switch

Deleting the password:

(CHANGE PASSWORD
DELETE PASSWORD is displayed on the monitor)

- Move the cursor to the correct position and
- press ▶ to confirm your selection.
- Move the cursor to PASSWORD and press ▶ to confirm your selection.

The first entry field is marked.

- Now enter the currently valid password as described for ENTERING THE PASSWORD.

When this password has been entered correctly,

- press the cursor rocker switch up or down.

The DSC MENU will appear on the monitor as long as the password has been entered correctly.

Entering the password after the power supply has been interrupted:

OLD PASSWORD will appear on the monitor.

- Press ▶ .
  The first entry field is marked.
- Now enter the password as described in the section ENTERING THE PASSWORD.

As soon as you have entered the password correctly,

- press ▶ .

**PREAMP ON OFF**

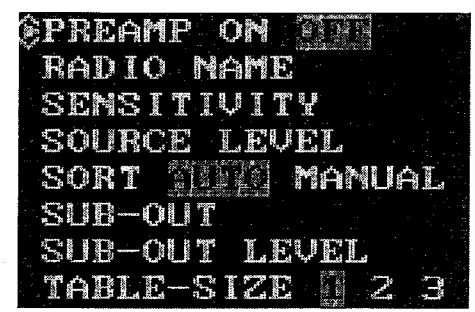
– The default setting is PREAMP OFF.
  If an external sound processor has been hooked up to this system, then PREAMP must be switched to ON.

Activating the function:

- Move the cursor to PREAMP ON OFF and
- press ▶ to make your selection.

Note:
If the Berlin RCM 303 A does not emit any sound after it has been switched on, then check to see whether PREAMP is switched to OFF.

Cursor
rocker switch



**SOURCE LEVEL**

– for adjusting the level of different signal sources (cassette, CD, AUX) to the permanently set radio level. In order to do this, first activate all of the sound sources. Switch on the radio, insert a cassette and a CD and activate AUX, if available.

Activating the function:

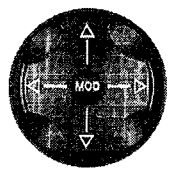
- Move the cursor to SOURCE LEVEL and press ▶ .
- Move the cursor to the corresponding function, e.g. CASSETTE, RADIO
- Switch between the sources with the cursor.
- The source currently highlighted (cassette, CD, AUX) can be adjusted to the radio level by pressing △ / ▽ on the MOD rocker switch.

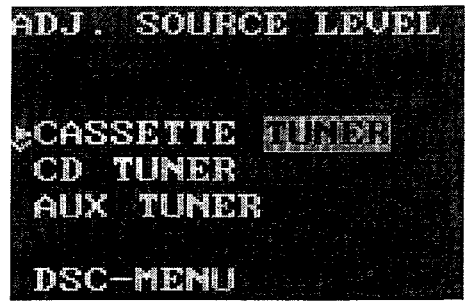
Adjust the signals one after the other, as required.

- Move the cursor to DSC-MENU and press ▶ .

Cursor rocker switch

MOD rocker switch



## NAMING STATIONS

– This function allows you to name radio stations. The longwave stations already appear with their name abbreviations, but you can change these if you wish as well.

Activating the function:

- Move the cursor to RADIO NAMING and press ► .

The display above will appear.

- Move the cursor to the frequency range concerned and press ► to confirm your selection.

The display below will appear.

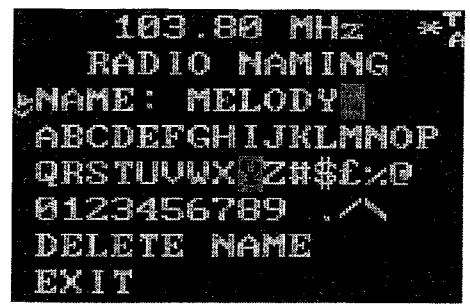
- Select a radio station by pressing Δ / ∇ or I◄ / ►I on the MOD rocker switch if you have not already done so.
- Move the cursor to NAME and press ► to confirm your selection.

The first entry field is marked.

- Use the MOD rocker switch to select the first of a maximum of 8 characters for the name.
- Press ► to enter the highlighted character at the marked position.

The marking will move to the next position.

- Enter all of the characters for the name in this way. Once you have entered them all correctly,
- move the cursor to EXIT. The name has been stored. Now select the next station and enter the name correspondingly.



Mistakes in the entry/changing names

If the name has been entered incorrectly, you can delete it.

- Press DELETE NAME or you can correct/change it by writing over it.
- Move the marking to the character you wish to change. Change all of the incorrect characters one after the other.
- Select a new character and press ► to confirm your selection.

After completing the names:

- Move the cursor to DSC-MENU and press ► .

**SORT AUTO MANUAL**

– With this function you can display the automatically or manually sorted preference menus (overview of preferred stations).

Activating the function:

- Move the cursor to SORT AUTO MANUAL.

Press ► to switch from AUTO → MANUAL → AUTO. If this function is set to AUTO, then the storage table will be sorted automatically in alphanumeric order. Any manual sort selected previously will be deleted when the function is set to AUTO.

Manual sort:

If you would like to determine the order in which your stored stations are displayed, then proceed as follows:

- Press I◄ and then Δ on the MOD rocker switch one after the other until the preference menu appears on the monitor.
- Move the cursor to the station whose position you want to change.

- Press ► down until the line begins to flash (< 3 sec.). Important! > 3 sec. will delete the station.
- Move the cursor to the desired position and press ► to confirm your selection.

A table which has been sorted manually will be resorted in alphanumeric order when the function AUTO has been selected. The manual sort will be deleted.

**SUB OUTPUT**

– If you hook up an amplifier for a subwoofer to SUB-OUT, then you can use this function to select the upper limiting frequency for the sub-amplifier.

Activating the function:

- Move the cursor to SUB-OUT and press ► .

If a subwoofer has been hooked up,

- move the cursor to the desired upper limiting frequency.

If a subwoofer has not been hooked up,

- move the cursor to NO BASSBOOSTER, as otherwise the bass will not be amplified.
- Press ► to confirm your selection.

After completing the adjustment

- move the cursor to DSC-MENU and press ► .

**SUB-OUT LEVEL**

– If you hook up an amplifier for a subwoofer to SUB-OUT, then you can use this function to select the level for the sub-amplifier.

Activating the function:

- Move the cursor to SUB-OUT LEVEL and press ► .
- Set the level to 0 dB. Set the default setting for the subwoofer.
- Move the cursor to the desired level and press ► to confirm your selection.

After completing the setting

- move the cursor to DSC-MENU and press ► .

Cursor rocker switch

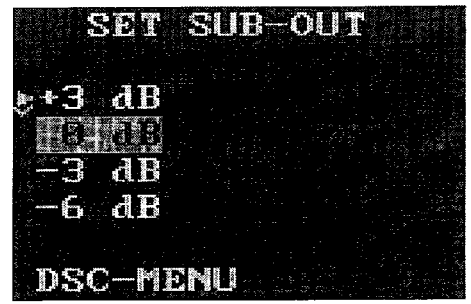



**TABLE 1 2 3** * (1 = normal)

– for determining the size of the reception table by changing the sensitivity.

This means:

**1** The largest number of stations is displayed. Stations with poor reception are also included.

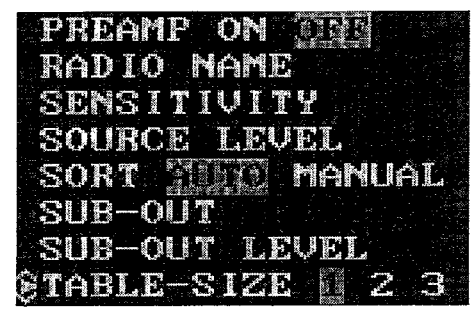
**2** Normal number

**3** Only a few stations are displayed.

Setting 3 is only advisable in countries where there is a high density of radio stations, such as Italy.

The search mode sensitivity is not altered with this setting.

Cursor rocker switch



Activating this function:

- Move the cursor to TABLE 1 2 3 and press ▶ .
- Press ▶ to select the table size desired.

After completing the adjustment

- Move the cursor to a different DSC function or exit the DSC menu (press MOD once quickly).

**TIM-/TA LEVEL**

– Use this function to choose the volume level for traffic announcements from nine different selections. 1 is very quiet. 9 is the loudest volume possible. The value selected is displayed on the lower right-hand side of the screen.

Activating the function:

- Move the cursor to TIM-/TA VOLUME and press ▶ . This will switch on the radio.
- Press I◀ / ▶I on the MOD rocker switch to set the desired level.

If you would also like to alter the settings for balance/fader, bass and treble, you can do this now.

- Press ▶ to confirm your selections.

After completing the adjustment

- Move the cursor to the DSC menu and press ▶ .

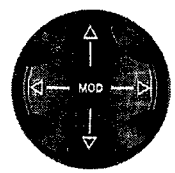
The system will switch back to the sound source last active.

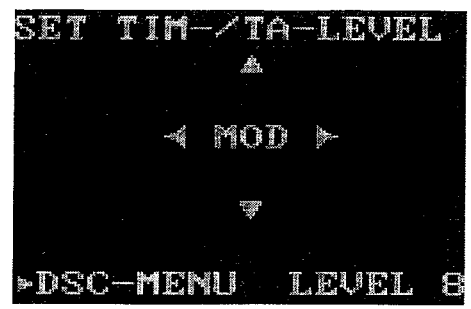
**TIM TIMER**

– for switching TIM on and off, setting the date and the time. The exact description can be found in the section "Recording traffic announcements starting at a predetermined time".

Cursor rocker switch

MOD rocker switch



**UPDATING TPM**

– for storing CD tracks.
The exact description can be found in the section "TPM".

**TV EUR F GB I IRL**

– Use this function to select the valid TV standard. This function is only important if a video interface with a TV tuner has been hooked up to the system.

**AMPLIFIER**

– The amplifier output can be set according to how it is hooked up. Selecting "2 x 50 watts" is only a good idea if an additional amplifier has been installed or if only two loudspeakers have been connected (e. g. in a sportscar)

Activating the function:

- Move the cursor to AMPLIFIER and press ▶ to confirm your selection.
- Move the cursor to 4 x 70 or 2 x 150 and press ▶ to confirm your selection. (The equalizer adjustment will only function for 4-channel operation.)

After completing the adjustment

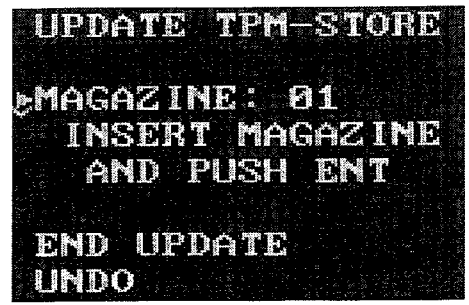
- Move the cursor to DSC-MENU and press ▶ .

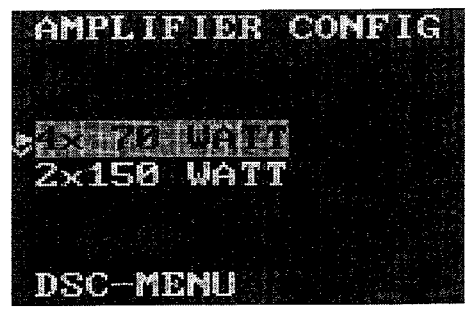
**VIDEO OUTPUT**

– Using a TV-Video interface and a second screen you can use this function to select the control source for the screens during video operation (optional).

Cursor
rocker switch

Cursor
rocker switch



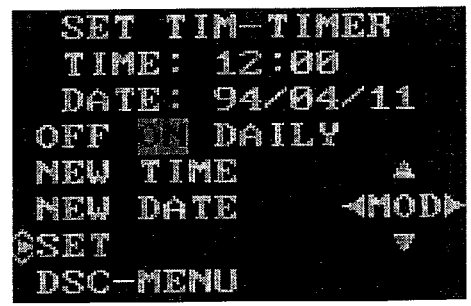
## FACTORY DEFAULT

– Use this function to switch the settings back to their original condition as set at the factory.
  The DSC functions, which can also be reset with FACTORY DEFAULT **all at once**, are marked with an asterisk (*) and have a free gridded space following the title.
  Here you can make a note of the setting values.

If you wish to reset these values to the factory default settings,

- move the cursor to FACTORY DEFAULT and press ► .

Cursor rocker switch




## TIME/DATE

– With this function you can update the system's time and date.
  It is essential to enter the exact time so that TIM will begin recording traffic announcements at the correct time. The time of recording will also be displayed on the screen correctly.

Activating the function:

- Move the cursor to TIME/DATE and press ► .

The currently set time and date (year, month, day) will appear on the monitor.

<u>Setting the time:</u>

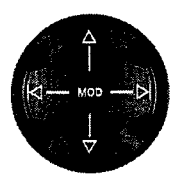
- Move the cursor to NEW TIME and press ► .

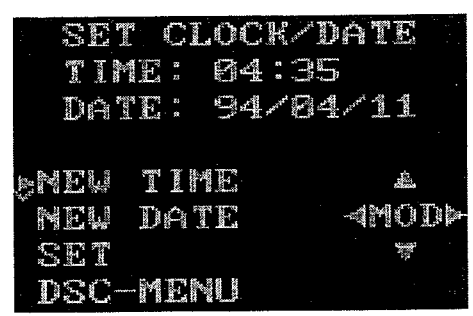
Make the appropriate setting with the MOD rocker switch.

- Select the value you would like to alter by pressing I◄ / ►I (will flash).
- Press △ / ▽ to set the desired value and
- press ► to confirm your selection.

Cursor rocker switch

MOD rocker switch



Setting the date:

- Move the cursor to NEW DATE and press ▶ .

The currently set date (year, month, day) will appear on the monitor.

- Select the value you would like to alter by pressing I◁ / ▷I (will flash).
- Press △ / ▽ to set the desired value and
- press ▶ to confirm your selection.

After completing the adjustments

- Move the cursor to STORE and press ▶ to confirm your selection.
- Move the cursor to DSC-MENU and press ▶ .

**CLOCK MODE**

– You can decide whether you would like the time displayed in a 12-hour (AM/PM) or a 24-hour mode.
The date is always displayed in the order year/month/day.

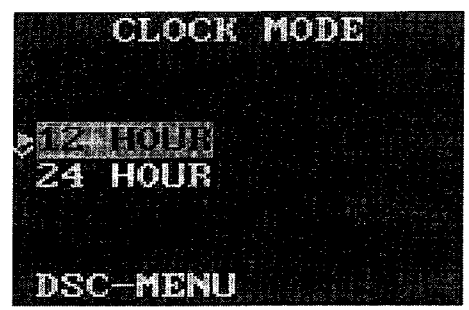
Activating the function:

- Move the cursor to CLOCK MODE and press ▶ .
- Move the cursor to the mode you would like to select and press ▶ to make your selection.

After completing the adjustments

- Move the cursor to DSC-MENU and press ▶ to exit this menu.

Cursor
rocker switch



# What to do, when . . .

**. . . the power supply has been interrupted?**

Enter the password when the corresponding menu for entering the password appears on the screen. You will find all of the information necessary to do this in the section "Programming with DSC – ENTERING THE PASSWORD".

**. . . you cannot switch the unit on,**

because every time you enter the password, the message WRONG PASSWORD appears on the screen?

– Make sure you enter the password completely.

You will find all of the information necessary to do this in the section "Programming with DSC – ENTERING THE PASSWORD".

If the message WRONG PASSWORD still appears even when you have entered it correctly,

– get help at an authorized garage.
  There the system can be switched on again if you provide proof of ownership (proof of purchase, car radio passport).

**Important!**

After the power supply has been interrupted, it is essential to reset the TIME/DATE and the TIM-TIMER (described in the section "Programming with DSC"), so that the traffic announcements will be recorded automatically at the pre-set time and the recording time is also accurate.

Look into your records to see which DSC functions you had altered and reset them as well.

**. . . the Berlin emits no sound after being switched on?**

Check to see whether "PREAMP OFF" has been set.

Activate the DSC menu:

- Press MOD for approx. 2 sec. until the DSC menu appears.
- Move the cursor to PREAMP ON OFF.

The normal setting is PREAMP OFF. PREAMP must only then be switched to ON if you have connected an external sound processor.

If necessary,

- press ▶ to switch the setting.
- Press MOD once quickly and exit the DSC menu.

**. . . only a few stations can be received?**

Test the antennas as described in the section "ANTENNAS 1 2 3 4". The size of the reception table may be too small because the sensitivity has been set wrongly (refer to "TABLE 1 2 3").

**. . . there are many stations, but only a few station names?**

Test antenna 1.

**. . . the changer control does not function correctly?**

It could be possible that the changer does not function properly sometimes as a result of a voltage drop (e.g. when starting the engine).

- In this case, switch the changer off and then on again. It is also possible to re-initialize the changer while it is switched off by removing the magazine and then after waiting 5 sec. putting it back in again.

The changer should function normally again.

**. . . you drive into a car wash?**

(Only important if you have an automatic antenna.)

**It is very important to observe the following instructions in order to protect your automatic antenna**

If you have activated the TIM-TIMER, you must switch it off before entering the car wash.

- press TIM for longer than 3 sec. with the unit switched on.

The tuner will switch off completely with a BEEP and the automatic antenna will be retracted. You can still use CASS, CD or AUX. Select TU and ANTENNA will appear on the monitor. As soon as you have left the car wash

- press TIM once quickly.

The tuner will switch back on and the antenna will telescope out.

# Specifications

### A. Type

Display menu-controlled, optically connected multimedia system in open architecture with 4-fold ADA, 2 tuner RDS, digital audio amplifier, soft-touch autoreverse cassette drive Mini 13 Hi-fi, Compact Disk Changer CDC F03.

### B. FM receiver

Type: 5 Codem IV tuner concept with 4-fold ADA and additional background receiver for RDS diversity, station table creation and Travel Program

| | |
|---|---|
| RDS concept: | 2 tuner RDS based on director principle analysing PI, PS, AF, TA, TP, REG, PTY, EON and TMC interface |
| Frequency range: | 5 x 87.5 - 108 MHz |
| Tuning grid: | 100 kHz steps for automatic search mode<br>50 kHz steps for manual search mode |
| Display: | 4" colour LCD monitor |
| Sensitivity: | 0.9 µV/26 dB S/R typ. |
| Limiting threshold: | 3 µV -3 dB |
| Selectivity: | > 90 dB ± 300 kHz<br>> 50 dB ± 200 kHz |
| Number of circuits: | 12 RF circuits (4-fold ADA)<br>4 IF circuits<br>3 ceramic filters<br>5 circuits + 3 ceramic oscillators (director receiver) |
| Intermediate frequency: | 10.7 MHz |
| Frequency response: | 35 – 16000 Hz -3 dB (konstant) |
| Cross-talk attenuation: | > 30 dB at 1 kHz |
| A/D converter: | Crystal CS 5349 (1 bit sigma delta) |

## *C. AM receiver*

Type: Double superhet with passive wide-band ring mixer and switchable band width

| | |
|---|---|
| Frequency ranges: | AM 531 – 1602 kHz<br>LW 153 – 279 kHz<br>SW 13-, 16-, -19, -21, -25, -31, -41, -49, -60, -75- and 90 m band |
| Tuning grid: | Automatic search mode 9/5 kHz and manual in 9/1 kHz steps |
| Concept characteristic: | 4 RF band passes for AM, LW, SW<br>7 dBm broad-band ring mixers<br>IF: 2 circuits<br>1 quartz filter<br>2 ceramic filters |
| Intermediate frequency: | 10.7 MHz/460 kHz (Double superhet) |
| Frequency response: | Narrow bandwidth typical 3500 Hz - 3 dB<br>Wide bandwidth typical 5500 Hz - 3 dB |
| A/D converter: | Crystal CS 5349 (1 bit sigma delta) |

## D. Traffic information receiver

Type: a) RDS with evaluation of EON, TA and TP
b) Super Arimat with evaluation of station announcements and reception area identification
c) Travel Program
d) freely programmable TIM function (Traffic Memo)

## E. Cassette

Type: Autoreverse with track logic and pinch roller release and tape tightening

| | |
|---|---|
| Speed: | 4.75 cm/sec. |
| Wow/Flutter: | < 0.18 % typ. |
| Drift: | ± 1 % typ. |
| Rewind time: | < 100 sec. (C60) |
| Frequenzgang: | 20 – 20000 Hz -3 dB typisch |
| S/N ratio: | 56 dB typ. without Dolby<br>64 dB typ. with Dolby B<br>70 dB typ. with Dolby C |

| | |
|---|---|
| Cross-talk attenuation: | > 65 dB typ. (opposite track)<br>> 50 dB typ. (channel separation R/L) |
| A/D converter: | Crystal CS 5349 (1 bit sigma delta) |

## F. CD changer

All data measured at loudspeaker output

| | |
|---|---|
| Frequency response: | 20 – 20000 Hz -1 dB |
| THD: | 0.03 % typ. |
| Cross-talk attenuation: | 70 dB/1 kHz |
| S/N ratio: | 90 dB typ. (evaluated A) |
| Output: | optical/digital |

## G. AF amplifier

Type: Digital audio amplifier with integrated, self-adjusting equalizer and DNC digital noise cover

| | |
|---|---|
| Frequency response: | 20 – 20000 Hz -1 dB (via optical input)<br>20 – 20000 Hz -3 dB (via analogue input) |
| S/N ratio: | > 90 dB typ. (evaluated A via optical input)<br>> 75 dB typ. (evaluated A via analogue input) |
| THD: | 10 % for 4 x 70/2 x 150 watts RMS<br>1 % for 4 x 53/2 x 125 watts RMS |
| Cross-talk attenuation: | > 60 dB (1 kHz) |
| Output: | 4 x 70/2 x 150 watts RMS<br>(DIN 45 324/3.1) |

| | |
|---|---|
| Tone control: | Treble +12/-11 dB typ. for 10 kHz<br>Bass +12/-11 dB typ. for 60 Hz |
| Equalizer: | – Digital 4-channel equalizer for FL, FR, RL and RR with 9 bands each (bridge wave digital filter)<br>– Self-adjusting via digitally created pink noise<br>– 4 location-specific storable Hi-fi graphs<br>– 4 user-specific storable graphs for front/rear<br>– Digital noise cover (DNC) |
| Sound processors: | 2 x Texas TMS 320C25 (Equalizer)<br>1 x Texas TMS 320C25 (DNC) |
| D/A converter: | 2 x stereo D/A converter AD 1868 (8 times/ 18 bits) |
| A/D converter: | 1 x stereo A/D converter CD 5349 (1 bit sigma delta) for AUX in<br>1 x A/D converter AD 7880 for DNC |

## H. Theft protection

Freely programmable password with a master code derived from the serial number and owner identification

## I. General

Operating voltage: 10.8 to 15.6 volts

Operating temperature range: -20 to +60°C

Storage temperature range: -40 to +85°C

Power consumption: 3,8 A (standby)
40,0 A (max.)

Dimensions W x H x D:

| | |
|---|---|
| Operating panel/cassette: | 179 x 50 x 160 mm |
| LCD screen: | 115 x 95 x 85 mm |
| Tuner components: | 245 x 50 x 171 mm |
| DAA components: | 390 x 75 x 285 mm |
| CDC interface: | 115 x 30 x 95 mm |
| Compact Disc Changer: | 296 x 88 x 167 mm |

| | |
|---|---|
| Connection jacks (Amplifier): | 4 x loudspeakers<br>1 x Preamp Out (DIN)<br>1 x Preamp Out/In (DIN)<br>1 x Sub-out (DIN)<br>1 x Aux-in (DIN)<br>1 x Telephone<br>3 x Opto-In for CD, cassette and tuner (Toslink)<br>1 x Controller bus (CORA)<br>1 x Microphone (DIN) |